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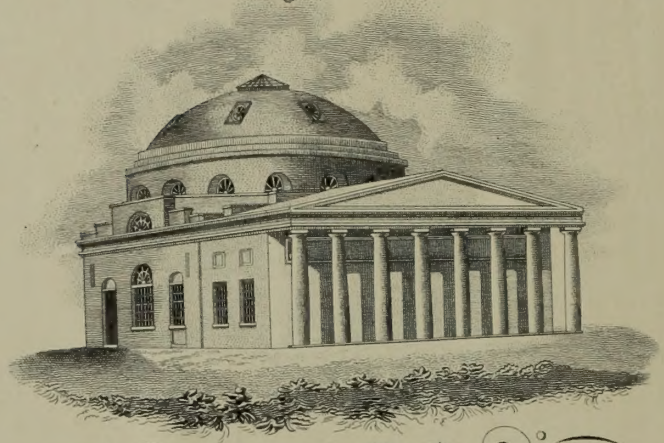

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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UNIVERSITY OF MARYLAND

THESES

1863 (b)

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UNIVERSITY OF MARYLAND

THESES

1863 (b)

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1863

An

Inaugral Dissertation.

On

Phthisis Pulmonalis.

Submitted to the examination.

of the

Revd. Regents

and

Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of medicine

by

Wm. Broadbent.

Of Maryland.

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Gentlemen of the Medical Profession.

Before proceeding to accomplish the duty of writing my graduating thesis, I shall write a few preliminary remarks, and but a few. I am now about to launch my bark upon the sea of life, to undertake a business, which is both arduous as well as hazardous, on account of my having life and death placed in my hands. I may be compared to a new ship, on its trial trip across the ocean; not knowing whether it will be able to accomplish its voyage. A Physician has to undergo many hard undertakings, and surmount many difficulties: He has to attend to all sorts of people when sick, no matter whether they are white, or black, high, or low, rich or poor, as well as to expose himself to all kinds of weather. But these difficulties must be all overcome by him, if he wishes to be what he ought to be: a good Physician. He must not become discouraged if during the first few years, he does not get much practice: his profession may be compared to a man commencing a mercantile business: it requires time to get started. He must keep his spirits up, and look forwards to that sun which will beam on a better day to him, which will sooner, or

later come undoubtedly, if he conducts himself as becomes a gentleman; namely, soberly, justly, and righteously. — and has for his motto, that glorious golden rule which says, "Do unto others as he would, they should do unto him". He must conduct himself at the bedside of his patient, with modesty and kindness. He should speak kind words to the patient, and endeavour to do as much good as possible in the way of restoring his health once more. He should not care whether his patient dies or no, provided he gets his fees, as quacks do. These should be of no thought to him, it should be to do all the good that he can, and then think about his fees. He should think how he would like to be treated, if he was on a bed of sickness. A Physician should have a knowledge of all the different preparations of medicines, their proper doses, the different diseases, the diagnosis, the prognosis, and the treatment proper for each disease. he should also have a knowledge of all the structures of the living, and moving organism, as the bones, muscles, blood-vessels, nerves and so forth. For the human body is fearfully and wonderfully made. if he has not a knowledge of these in his cranium, (at least the most important of them,) he should not attempt to be a physician, but

should go, and be something else, that will suit him better. A Physician must not become disheartened, if called to a sick room to see a patient, if the first medicines he uses are of no avail to the disease. He should have for his motto number two. these few simple words, which are try, try again until you succeed in finding, the proper remedy. He should never dispair with his case, if he finds the disease is incurable and the patient must die. he should do the best he can towards relieving the sufferings of the patient; and try to make him as easy, as if he was reposing on beds of down. A Physician must not think because he has got the two letters M.D. affixed to his name, that he can throw his books aside, alas! alas! as too many do, after they get those two letters, to their name, for spiders to build their webs on, and mice to feed upon, and that he can lie back in an easy chair, no, no. this must not be; he should endeavour to read, and study his medical books every day, and strive to gain knowledge; for a person to be a physician cannot have too much; for the more he has, the better chance he will have to get along in this world. and lastly; gentlemen; if the Physician finds that the appointed time for his patient to die

has arrived, he should talk and point him to that haven of bliss, where sorrow, sickness, or parting, will never more be known, but all will live for ever, and for ever. I shall now gentlemen of the faculty, proceed to my thesis which is.

Phthisis Pulmonalis.

This disease is called by the people who speak our language, consumption, which signifies a wasting or decay of the whole body from the occupation of the lungs by a tuberculous matter, and the changes which that matter undergoes, and works. I shall first say a few words about tubercles found in this disease. The tubercles secreted by the lungs are semi-fluid at first; then they become solid. They are never found in a fluid state. The formation of tubercles is closely joined with the existence of a scrofulous constitution, after death by this disease, the lungs are most always found affected. Tubercles themselves are composed of unorganized matter, which is deposited from the blood. There are three different kinds of tubercles, namely, the yellow, the miliary, and tuberculous infiltration. I shall now proceed to describe the characters of each kind, as I have named them. The first or yellow tubercles consists of an opaque friable matter, of

a yellow color. firm as cheese. but easily crushed. are placed either in air cells where they are oval in shape. or they may be in the minute air tubes, where they are cylindrical in form. they cannot grow larger themselves. but by the constant addition of the same kind of fresh matter. they may be no larger than the head of a pin. or may be as large as a walnut. Tubercles also vary in number. may be five. or six. or a great many. all writers I believe agree that yellow tubercles consist of real tuberculus matter. Having finished describing all about yellow tubercles. that I at this moment recollect. I shall now pass to the second form. or miliary. These are small granules of firmer consistence. than the last being almost as hard as cartilage. are semi transparent. and of a reddish drab color. or a bluish gray. are mostly of an oval form. their size vary from that of a mustard seed. to that of a pea. in number they may be numerous in the upper part of the lung may be in clusters like a bunch of grapes. in the lower part of the lung may be separate. or isolated. In regard to the substance of the first and second form of tubercles. there has been. and still is some dispute. Laennec considers them to resemble the incipient stage of the yellow tubercles, Rokitansky

says they are two different substances, and Andral thinks that they are simply some of the vesicles of the lung become solid, and hard by chronic inflamation, and there it is. hardly no two writers alike, but most all Pathologists agree with Laennec, as they occur in the same lungs, in the same people, and the same parts of the lung, and one very seldom takes place without the other, and they both belong to that disease which causes so much havoc among the young, the most beautiful, and the most gifted of Father Adam's last race: Having not yet described the nature of the third kind of tubercles, I shall now do so, this kind as I mentioned before consists of tuberculus infiltrations, which are Exudations through the tissues of the lungs, often known by spots of a light color, or of streaks of the same color, are composed of same kind of matter as the yellow tubercles. The tuberculus matter after being deposited in the lung may undergo certain changes, the yellow and the miliary tubercles may remain sometimes for years since being altered, it is certain that the yellow or crude tubercles become softened after a time, some pathologists as Sir R Carswell seems to think that the softening of tubercles begin in the centre, this is not true, yellow tubercles are sometimes converted into a chalky

substance caused by the addition of fat, and salts of lime being taken up, in these cases it is thought that the patient lives longer. Tubercles consist of albumen mostly, also gelatin, fibrin, Carbonate of lime, and Muriate of soda. Can increase also by additions to its external surface. It is a remarkable and important fact that the tubercles are not disposed of at random. When they affect the lungs, you must always meet with tubercles when they are few, in the upper, and back part of the lobes of the lungs, also when they are scattered throughout the whole lung, it is in this part of the lung that they are the largest, and most numerous, it is here also that they first ripen, and soften and get ready to be expelled by means of the trachea, and bronchi, so it is in this place that we have the largest, the most numerous, and the most frequent excavations in the lung. These excavations are what are otherwise called vomicae, and the number and size of the vomicae, and tubercles lessen by degrees from the summit of the lungs downwards. It is a general rule that the favorite abode of the tubercles of Phthisis is the upper part of the superior lobes of the lungs. It is also a wonderful fact that the left lung is the one most apt to be affected with tubercles, the reason of this is not known, most common

to find in fatal Cases all the lung diffused with tubercles. tubercles are seldom confined to a single lung. if confined to one lung, it is the left mostly affected. the tuberculus cavity after escape of its contents becomes contracted, forming a hard fistulus canal, through this canal tubercles also escape from the lung. then cicatrised and secreted. the pulmonary pleura nearest that part cicatrised is found depressed and puckered. Louis thinks that this puckered appearance depends on no single lesion. tubercles seldom found in lung alone. may occur in any part of the system. Louis also thinks that tubercles may be found in any organ. mostly found in the lungs. the existence of tubercles in the lung sooner or later — complicated with other lesions, as those affecting the respiratory organs, small and large intestines sometimes ulcerated, mesenteric glands also affected, the liver may be fatty and adipose, or it may be waxy. spleen may be softened, and diminished in size, and lastly tubercles may even be found in the kidneys. when the tubercles are numerous they are likely to lie near to the surface of the lung. they then generally give rise to dry, or adhesive pleurisy, so that in a person who dies of this disease, it is very seldom that you find the lungs free from adhesion to the ribs. Having finished all that I deem —

necessary on the subject of tubercles. I shall in the next place make a few remarks on the auscultatory signs, which are very important, in the early stage of this disease, they are often so slight as not to be recognised, in the advanced periods are very distinct, and not difficult to recognise, in the first stage of solidification, the supra clavicular portion over the affected lung is flattened, when tubercles are isolated, and not numerous the resonance is the same as over healthy lung, when the tubercles increase in number we will have a dull sound on the clavicle either just above or below it, to detect the dull sound if slight, you must tap gently, dull sound of left lung more important than that of the right lung, the dullness is supposed to depend on absence of air, the dullness must always begin at the upper part of the lung near the clavicle, on applying your ear to the chest if the tubercles are few the respiratory murmur will be found to be not much affected, if tubercles are numerous, it may be feeble, or harsh, or sibilating, or it may be entirely absent, which is caused by air being prevented from entering the air tubes, if confined to apex of lung, and not lower down may be very serious, if there is no pleurisy, and you have a sibilating rhythm you will have a sure sound of tubercles, only rhoncus heard is the dry crackling just below the clavicles. In second stage, or stage of

of softening you have dulness on percussion, and blowing respiration. the dulness takes place as the Cavity begins to form, or you may have a sibilating sound, the clicks become more numerous until you will have a hoarse mucus rhoncus. In the third stage, that is the stage of excavation, fluctuation may be felt by palpation on the chest. if the Cavity is very large the fluctuation may be felt by succussion or shaking the patient. in this stage if the Cavity is small the percussion sound is dull. which is most Common over a Cavity. if a thick stratum of healthy lung surround the Cavity. the sound will be clearer or natural. if Cavity is near the surface. and not separated by a stratum of healthy lung; the sound will be gurgling Caused by pus. or vitiated mucus. or any kind of liquid being Collected in the cavity which Communicates freely with the trachea. through nervious bronchi. and the bubbles Caused by the entrance. and exit of air will be still more numerous. and large. and this gurgling sound is produced. which sound in the French language is called gargouillement, this sound also is heard in a circumscribed space, and not diffused as a large crepitation will be. therefore when we hear gurgling during respiration. or during the act of Coughing. we always Conclude that a Cavity exists in that place. but it may be asked. Is the Cavity always

necessarily a Vomica? the question thus may be answered, in ninety-nine cases out of a hundred it will be so, but in the hundredth case it may not be so. Again when the Cavity is emptied of liquid we may hear as the patient Coughs or respires not vesicular breathing, nor exactly bronchial breathing, it is something more than that when the cavity is large, something different from it when the Cavity is small: but whatever the character of the sound we call it Cavernous respiration, as it is believed to take place in a cavity or a vomica, it is a hollow sound especially when it is a large Cavity. It is supposed by some that the different kinds of Cavernous breathing are doubtless owing to different forms, situations of the Cavities, different sizes, and to different Condition of the surrounding lung. it may be very large or it may be a very small Cavity. its sides may be torn and rough, or they may be equal and condensed. there may be only one bronchi open into it, or there may be several, the Cavity may be near to or far from the ribs. it may separate from the Pleura, or may be adherent to the Pleura, the Cavity may be a simple Cavity, or it may be a Cavity of many chambers. the Cavity found in a tubercle may be so large, and of such a kind as to give metallic sounds, which are heard in pneumothorax. to get the metallic sounds Dr. Watson says the vomica or

Cavity must be a large one. but besides the voice of the patient will be changed also. if the cavity is tolerably large, ~~large~~ have dense walls, near the surface, and be empty, you will hear pectoriloquy, which is heard in that part of the chest when the patient speaks, as if the voice came from the chest, the words are heard distinctly by the ear of the listener. This pectoriloquy is supposed to depend on the sound of the voice reflected down. this sound is not a sure sound of this stage of Phthisis, it is a sound that you any day may hear, or the same sound which pectoriloquy is intended to denote by placing a stethescope over the trachea of one of your friends, apply to the other end of it your ear, and get the person to speak. this sound is said to be no proof of a cavity or tubercles being in the lung. it may occur when a tumor has taken place between the main bronchi and ribs. this sound as a sign is of small importance by itself, it may be heard where no cavity exists, or it may occur, where there is a cavity. A Cavity may take place without being a tuberculous cavity, it may be a cavity caused by the dilatation of a bronchial tumor. whenever actual pectoriloquy from a cavity is heard there will be Cavernous respiration, but there may be a cavity and a Cavernous respiration, but no pectoriloquy. this is on account of the cavity being not large enough, or too far from

surface of the chest, or not; & the kind to reverberate the voice.
Often when gurgling cannot be heard, and pectoriloquy is
not present, and cavernous respiration is doubtful, because the
communication with the bronchi is not free. a slight clicking
sound will take place when patient coughs, you may hear
it sometimes even with every beat of the heart, of the patient if
he holds his breath, and if its contents are thin thin as they must
be, it will cause a little succussion in the cavity, when these
sounds are well marked they denote a cavity to be present in
the lung. If the sounds are not well marked, time should be
taken before a decided opinion is pronounced by you concerning
them, as obscure bronchophony is very near to weak pectoriloquy.
large crepitation heard in a small spot may resemble gurgling;
and bronchial respiration may be very much like some kinds
of cavernous breathing. therefore it is best when sounds are not
truthful, for you to suspend your judgement, and give a guarded
opinion. I also forgot to mention that in many cases of this
most terrible disease, a dry crackling sound is heard, the cause
of this sound no one knows, in some cases is only heard during
respiration, in other cases heard both in respiration and in implication
this sound lasts for different periods, in acute form, or as it is
otherwise called galloping consumption it lasts from eight to

twenty five days. When it passes into mucous rhonchus in some or slow cases it will last for two or three months. Having finished all that I deem necessary in regard to auscultatory signs, I shall write no more about them, but shall now write about what should have been done before, when on the subject of tubercles, and that is tubercles are eliminated from the body in three different modes, namely, first by solidification, secondly by softening, and finally by excavation. I shall now proceed to the symptoms of this disease. They are numerous, and some of them very important to a physician when called to see a patient suffering from this disease in making his diagnosis. The general symptoms are the following Cough, hectic fever, haemoptysis, dyspnoea, expectoration emaciation, hoarseness, or complete loss of the voice, and diarrhoea, pain and uneasiness in the chest, feeble pulse, at the commencement of the attack the habit of the patient falls off, respiration at times quick and hurried on slightest exertion, spirits may be much depressed, in many cases pupil will be dilated, pallor of countenance often observed, sense of coldness along the spine, morning and night, the one at night being worst, patient restless, does not sleep sound, patient easily flushes after a full meal, or after any excitement, patient gets better as spring comes on, but gets worst at return of winter. I shall now say a few words in regard to each one

of these symptoms as well as of any others that I may think of.

Cough is one of the first symptoms of this disease that attracts the attention of the patient or his friends. the cough at first is almost dry, which continues often for months this way. if a disposition to vomit after eating, should be felt on account of the Cough, there is still greater reason to fear that consumption is coming on. the Cough at first is also slight, and takes place at times. it occurs on the patient making any unusual exertion during the day or on the patient rising from his bed in the morning. It tickles the patient as though it was caused by some irritation in his throat, by degrees it begins to be troublesome at night, and to be attended with more or less expectoration of mucus, now if such a Cough steals upon a person by degrees and no reason can be shown for its taken place, this circumstance alone is enough to excite suspicion as to its true nature and Cause. but Cronic Cough may be present without the lungs being diseased, it may depend upon disorder of stomach, it may be the cough of Cronic Catarrh, it may occur on account of heart being diseased, or it may be the nervous barking Cough which often takes place in hysterical females. Cough sometimes does not take place throughout the disease, but this is very rare. it may even prove fatal and large portions of the lung be disorganized without the Cough taking place. In regard to

the next simptom I shall mention which is haemoptysis. this is often the first simptom that attracts attention. it is equal in both sexes. mostly is a simptom not a cause. the cause of this simpton is supposed to be Congestion in vicinity of blood vessels. or erosions of some large blood vessels. if this signs occure in a person who has received no injury in the chest. in whom the uterine functions are healthy and right. and no disease of heart present. there is no doubt but tubercles are in the lungs. it is said that this simptom is very uncommon before the age of fifteen even in children predisposed to phthisis. next simptom I shall mention is dyspnoea. which is not a very important simpton in this disease. it is not often severe until towards the termination of the disease. — patients will sometimes try to deceive in regard to this simpton. sometimes they are unwilling to believe that they have this malady. and they will draw a deep breath. however if they are not much effected with dyspnoea. their breathing must is in some degree hurried. & short. although they may not know it. the cause of this simpton being so slight in some cases. and the respiratory apparatus so often spoiled is supposed to be on account of the insufficient manner in which patients are nourished in this disease. in consequence of abdominal disease. and on account of their blood being wasted by diarrhoea. next simpton is

expectoration, this does not occur until the cough has lasted for some time, at first it is scanty, afterwards yellowish, and lastly it is ash-colored, it runs together, consists of pure pus. It was thought once that if a patient spat pus, he was in the stage of Consumption, this is not so. The bronchial membrane when inflamed may secrete pus, so that the presence or absence of pus in the expectoration is no sign that tubercles are, or are not in the lungs, pus may be known from mucus by the globules of pus when examed through a transmitted light to show the colors of a rainbow, but more brilliant and arranged different. Liquor Potassae also liquefies mucus, but turns pus into a viscid stringy mass, the expectoration most characteristic of this disease consists of gray, globular, flocculent masses, like little portions of wool. this is called by the French nummellar sputa, because when it is spat into a vessel with water in it, they assume the form of a peice of money and remain distinct and separate from each other. I shall write now a few remarks on the next sign which I shall mention, which is emaciation, this sign varies, some patients are much emaciated, others are not. the emaciation is the symptom which should especially demand attention. Hectic-Fever another symptom is a fever of irritation and weakness, it is commonly attendent on protracted, and

extensive ulceration, because this is one of the most common ways in which that irritation, and that degree of weakness is kept up throughout the body. But true hectic may sometimes take place without any ulceration as in delicate women who give suck to their infants too long, and in the latter stage of diabetes, under all circumstances it presents the character of a remittent fever. The fever is always worst at night, it often begins on the patient by degrees. This is supposed to be the course of this intolerant symptom, rigours are supposed to take place about six o'clock in the evening. Last an hour or so, and then succeeded by an increase quickness of the pulse, heat of skin, thirst, restlessness, and general uneasiness, about ten or eleven that night the sweating stage begins, which is the natural crisis of the hectic paroxism, the patient then perhaps gets some sleep, but the sweating stage still goes on; and when he wakes in the morning he finds himself covered with a profuse perspiration. It is a remarkable fact, that this disposition to sweat is sometimes local, that is confined to the head, and neck, or to the inferior extremities, these are called the weakening night sweats, which yields so distressing a characteristic of hectic fever. Hectic fever is a symptom which is often very distressing to the patient, so much so as to make him dread going to sleep,

it tends also to lessen his strength rapidly, and it is thought when severe to foretell a short duration of the disease. In regard to the diarrhoea which is a common and a very bad symptom, I shall write a few words. This symptom is attributed to depend on inflamation of the glandes of Peyer in many cases, when it takes place early as it will sometimes, and you suspect only from other causes that the patient may have incipient phthisis. This often sets its seal upon the nature of the disorder. generally however it does not get urgent until the disease is far advanced. When it does so occur it is apt to waste the strength, and flesh of the patient rapidly. Louis has proved that the diarrhoea, and perspiration do not bear an inverse ratio to each other as was supposed. As I have written more about the symptoms of this highly important disease, I shall only now mention some other symptoms that occur during the progress of the disease. oedema of the ankles, and swellings of hands, and face seldom fail to appear as the latest symptoms of phthisis these signs tell us that the disease is about to end, unless there is heart disease. The occurrence of phthisis is one of the last symptoms to occur, in some cases does not occur, but when it does occur it shows that the disease is about to end fatal. Ulceration of the epiglottis, of the interior of the larinx, and

of the trachea also sometimes occurs. There are still a few other symptoms, which when they do occur, add strength to the nature of the disorder, as for instance the Catemenia are suspended in women, and the hair falls off and the fingernails become curved. There are still a few other physical characters that show a tendency to Consumption, as a retina not very sensible, and so forth. Having written about the most important symptoms, and said more then I intended, I shall now proceed to write Concerning the Causes of this disease, which are numerous, they are as follows. Cold, most Consumptive patients date the beginning of their disorders from wet feet, damp beds, night air, wet clothes, or exposure to Cold after the body has been heated, then from all other causes, sharp saline aliments which inflame and heat the blood are also said by some writers as Dr. Buchan, to be frequently the cause of Consumption, certain occupations in life, as the occupations of those who sit much, and are always leaning forward, or pressing upon the stomach, and breast as cutlers, shoe makers, seamstresses, taylors often die of this disease. This disease often proves fatal to those, who make violent, and frequent exertions of their lungs, as singers, and public speakers, frequent and excessive debaucheries, drinking strong liquors, and late watching which go together can seldom fail to

destroy the lungs. hence the boon Companion mostly falls a sacrifice to this disease. Other Causes are violent passions. — affections of the mind. or exertions as close applications to the study of abstruse sciences, and arts. great evacuations as — diabetes, excessive venery, the fluor albus, an over discharge of the menses, giving suck too long, diarrhoeas, and sweating. another Cause is the sudden stoppage of customary evacuations as bleeding Piles, bleeding at the nose, sweating of the feet, issures, ulcers, or eruptions of any kind. injuries done to the lungs. Calculi will also Cause this disease phthisis. Confined or unwholesome air. when this fluid is impregnated with the fumes of minerals, as of metals. it prove extremely hurtful to the lungs, and often Corrodes the tender vessels of that necessary organ. is also said to cause it. It has been observed that an inflamation of the breast often ends in an impost hume. —— Consequently whatever disposes a person to this disease, must likewise be considered as a cause of this disease. Other diseases by vitiating the habit may likewise cause Consumption. as the scurvy, the scrophula, or kings evil, the venereal disease, small pox, measles, asthma. also great and sudden exertions of strength. and violent exercise as pitching the bar, jumping, running, and heavy lifts. also sedentary habits. and a —

changeable climate may also be ranked among the causes.—
This disease is often owing to an hereditary taint, or a
scrofulous habit, in which case the disease is mostly always
incurable. Having finished giving all the causes of this
disease that I at present recollect, I shall now proceed
to the diagnosis of phthisis. The diagnosis of genuine (or
tubercular) consumption from that state of thoracic disease —
which has been called vomica, when no disease of the lungs
existed before, modifies the phenomena, and also from chronic
inflamation of the bronchi is often a matter of great consequence,
but is often of very great difficulty. Indeed, it baffles in many
cases the knowledge of the most experienced physician. It is
to be accomplished principally by a knowledge of the patient,
and of his family predispositions: but much too may be learned
by a close attention to the progress of the symptoms. In the
case of vomica the previous occurrence of acute pneumonia
would, if found out, be almost decisive of the question. The
diagnosis sometimes difficult, at other times very easy. It is
difficult when tubercles are crude, thinly scattered, and scanty
in number, and individually small, in this case they may
not cause any marked deviation from the natural smooth, equable
rustle of the breathing, or from the natural sounds of the chest

on percussion. The diagnosis is easy when the tubercles are far-advanced, large, or numerous. many of the symptoms also aid the physician in making his diagnosis as haemoptysis, and so forth. I shall now consider the prognosis, and duration at the same time, as they may be considered as the same in my opinion, the prognosis depends on the presence, and severity of pneumonia, also depends on the time the treatment was begun. It may be cured if attended to at the very first onset, but when the stamp of this disease is set upon the patient, the prognosis is almost always then unfavorable. The duration of this disease varies much, it is sometimes brief, other times long, may last for a few months, or it may last for forty or fifty years as is recorded. Dr. Gregory is said to have recorded a case which ended fatal in eighteen days, average duration is supposed to be two years, but the majority die in nine months. In some cases there are threatenings of the disease for several winters before, the symptoms assume any degree of urgency, they are often checked by the return of mild weather, but even still perhaps in a more remarkable manner by pregnancy taking place, in the latter case it recommences with increased vigour as soon as delivery takes place. The explanation of this is that there is an increase in nutrition owing to the presence of the foetus in utero.

The months of December, and January are said to be especially fatal to phthisical patients, sometimes they die from extreme weakness exhausted from the discharge of pus, the colliquative perspirations, and the purging: at other times die more suddenly, suffocated by pus accumulating in the bronchi, which is unable to be expectorated by them, and by the rupture of a large blood vessel quite unexpectedly in the lungs which is the consequence of ulceration, but such cases as this last one is rare. The danger of consumption is increased by various causes: as by the time of life, it is said to be less certainly fatal in the aged. it is also said that phthisis which comes from tubercles is more dangerous, then that from haemoptysis, or suppuration of the lungs. It is stated to be dangerous especially in the last case when the abscess breaks inwardly. The degree of danger also depends upon the number of tubercles: If there be few, and the patient advanced, the disease continue for many years fine destroying life. Before proceeding to the treatment of this almost fatal disease, I shall make a few remarks on some other topics connected with this disease, and I shall first say a few word on the form of phthisis. There are two forms. Namely the mixed where inflamation is present, and the unmixed where no inflamation exists, the difference of the two forms being known by the

means of the auscultatory signs, in the last variety we hear the modifications or sounds which come from the presence of tubercles or of vomicae: and we hear those morbid sounds only: in every part of the lung where we cannot hear them, we have not the vesicular murmur of health. but we also have these sounds in the mixed form, but there are other sound to be heard by the ear besides. The tubercular disease is confounded with common inflamation: and we hear the sounds of common inflamation of the mucus membrane, or of the substance of the lungs. we have large or small crehilation, or sibilus mixing themselves with the sounds which belong to the tubercular ~~inflamation~~ affection. to know the difference between the two affections is of very great importance. for it concerns the treatment. This disease when established is beyond our control. the mixed form of the disease mostly takes place in the stage of vomicae. Dr. Latham has made two interesting varieties of the unmixed form. in one of these forms the lungs seem to be inhabited by a great many tubercles, which stay crude, and unchanged for a very long time. In the other form, successive crops of tubercles appear to be formed: or anyhow the tubercles ripen and are expelled in successive crops: and between the one crop, and the next the interval may be long. The disease is supposed to number the most victims

between the age of thirty and fourty; in children it is a very common disease between two and fifteen years old. it is also supposed that more men than women die of this disease. — because the former are exposed more to cold than the latter. certain occupations have some influence over this disease. as such as have an irritating operation upon the respiratory organs. as stone-masons, flax-dressers, metal-grinders, needle-pointers, those who use constantly sowing machines. Coal heavers, brass and steel polishers, and miners. On the other hand this disease is said to be extremely rare among fishermen, butchers, and their families, and servants on the farm. Beddoes says that this is on account of the use of animal food that they use: but it is thought that much of their better health is due to the active exercise in the open air, and also on account of their being a certain amount of energy and bodily strength in the open air required for such employments, and profuse and weak persons are not liable to undertake such employments. In regard to the question, whether this disease is hereditary or not, there is some controversy, some suppose that it is capable of being transmitted from parent to children in this case it is hereditary. Dr. Walsh thinks that to any considerable extent it is not hereditary, if both parents were

phthisical, it is very liable for the children to die of phthisis. the child is not so sure to die of it if only one parent had it. It is supposed that the diathesis is not communicable from person to person, nor can it hardly ever be generated in a sound constitution. some have the idea that the disease is catching. no such thing. A husband may be nursed by his wife in this disease, who afterwards droops and dies of it. in such a case a phthisical diathesis may not exist; but there may be a difference in the blood of the two parties. very few households are entirely free from the inter mixture of the diathesis of this disease. The predisposition to this disease may be slight, or it may lie concealed for a generation, or like other peculiarities that are inherited, it may fall upon some persons of the kindred capriciously. although this disease is supposed not to spread by contagion, for many seasons the same room, or the same bed should not be occupied by two persons, when one of them has this disease. In regard to the curability of this disease there is also some controversy, some physicians have supposed that phthisis is not curable, others have supposed that it may be cured by nature in a few cases, in some few cases which have occured, and are not hereditary they may be cured, but such cases are rare indeed. ——

Dr. Latham that experienced physician thinks that it is not curable, if it is a genuine case of phthisis. Dr. Bayle regards it incurable, which in my opinion is true, but by good treatment patients may be prolonged from death. Laennec thinks that if recovery takes place, it does not in the first stage, but in the second stage, that is in the stage of softening, nature is said sometimes to accomplish a perfect cure, but such cases in my opinion are rare. Having finished all that is necessary, and most important in regard to this disease, I shall now begin to consider the treatment of this most terrible and fatal disease, the treatment used is divided into three stages, namely, first is to prevent the disease when it is likely to occur, second, to arrest the progress when the disease is incipient, or very mild, and thirdly, to ease the most distressing simptoms. In regard to the prevention of the disease, the diet thought best in those whose parents have died of it, should be nutritious, nne stimulating, exercise every day in the open air if weather permits on horseback or on foot, it should be steady and habitual, and the patient should not be kept within doors, even in cloudy weather, provided only he is warmly clothed. And the inhalation of the air from a pine forest is by some deemed beneficial. Also cold

bath followed by friction every morning, early hours, warm clothing, abstinence from excessive study, from occupations in their nature unhealthy, from such employments and callings as are fertile of anxiety and care, also from vicious and exhausting indulgences of all kinds, and from impure air. Care must also be taken to avoid exposure to damp air and cold, when the patient rides on horseback, it is thought best for the patient to do so in the morning, or anyhow before dinner: otherwise it may do more harm than good. but riding is seldom recommended in this disease by those who attend the patient until it is too late, either not until ~~the patient~~ the patient cannot bear it, or the disease has become incurable. In regard to this part of the treatment of phthisis, that is the prevention of it, much might be said, but Dr. Watson says it belongs to medical police: if local irritation occur before tubercles form, the treatment must be bland diet, bleeding may be required, if local inflamation is mild, epispastics, tartar-emetic. More good is done to prevent it, than to treat the disease after it has begun. Nature affords to us four indications in the treatment of this disease phthisis. the four indications are to correct the digestive organs, to subdue local irritation,

to employ hygienic measures, and to remove urgent symptoms as much as possible. The first is done by tonics, and your regulations to diet, in regard to the diet that are various opinions. Some physicians will order that the patient shall have plenty to eat — with malt liquors and animal food, others will order that the diet shall be low with plenty of milk. My opinion as to the best kind of diet is the best. The object of the diet in this disease is to sustain the patient's strength without rousing inflammation in his lungs. If with this disease there be added an inflamatory condition of the pulmonary substance round the tubucles, or of the bronchial membrane, in such cases an antiphlogistic diet should of course be used anyhow for the time being. reverse the case, when the disease shows no disposition to its specific limits, then the diet should be full, and generous, and it may be so without stimulating too much. Debility induced however, adds to the tendency of tubercular matter: and for this reason the debility rising from insufficient nutrition is to be avoided as carefully as is compatible with the other indication, which is to sustain inflamation of the lung. Milk is a sort of animal diet; and it is also unstimulating, and nutritious for this reason milk may, in many cases, be the staple of the food, if it is agreeable to the patient; and if it agrees with him, for it may purge the patient: this may be obviated by mixing it with

Cold conserve of roses. when the Conserve of roses cannot be obtained.
it is said that the shavings of crabs claws may be used in the place
of it. Asses milk has been thought to be the best; but it is not to
be always obtained. besides it is usually taken in a small quantity;
whilst on the other hand to produce any effect, it should be given
in the quantity of half an English pint at a time, which should
be three or four times daily at least, and should eat a little bread
along with it, so as to make it a kind of a meal. it should also
if possible be taken in its natural warmth. Some extraordinary
cures in Consumptive cases are said to have taken place from Woman's
milk. Could this be obtained in a sufficient quantity, it would be
be better than any other, so says Dr. Buchan. it is better if the
patient can suck it from the breast. than to drink it afterwards.
He gives this case as an example of what he relates. He once
knew a Man who was reduced to such a degree of weakness
in Consumption as to be unable to turn himself in bed. his
wife was at that time giving suck, and the child having died.
he sucked her breasts, more with a view to make her easy. than
to reap any advantage from the milk himself, but however finding
that it done him a great deal of good he continued to suck her
until he recovered entirely, and got to be a strong and healthy
man. Some recommend butter milk in preference to any other.

and if the stomach will bear it, it is no doubt a very good medicine. it should be taken at first sparingly, and gradually increased, until it forms almost the only food used. it is stated by some writers not to succeed unless the patient almost lives on it. Cow's milk may be obtained more easily than any other kind of milk, and though it is not so digestible as ass's milk, it may be made light by mixing it with an equal quantity of barley water, or by letting it stand for some hours, and then taking off the cream, if it should still prove heavy on the stomach a small quantity of brandy or rum may be added with a little sugar. you should be careful about keeping patient too long on restricted diet; animal broths with fish, and a proportion of plain dressed meat may be allowed also. to improve the tone of stomach, infusion of simple bitters. if no inflammation exists brandy may be used. calculated to act beneficially by giving food to the blood. for the second indication, or to subdue local irritation, if a strong pulse exists, use cups, or leeches, and a cautious use of antimony, in a tonic state of the system which is mostly the case. Counterirritants as mustard plaster, croton oil or blisters. the effect of counterirritants upon the progress of this tubercular disorder is observed sometimes by accident. Dr. Abercrombie relates a case in which cerebral disease showed in this way, the characteristic symptoms of phthisis disappearing. the effect of this remedy also

seen in pregnant women in whom phthisis will cease for a time. it is said to be very rare for a female pregnant to die of this disease phthisis. The third indication of treatment is to imploy hygienic measures to improve the health. as change of climate which is good where disease is cronic. and no inflamation exists, may be good also where disease has gone so far as to form a cavity, but the patient's health has got better. Next question is what kind of climate should it be: it should be a mild climate where patient can take exercise in the open air. Dr. Rush advises patients to spend the summer in the southern states. most patients now go to the West-Indies. or may reside in pine forests. Malarious regions has also been recommended but are of no benefit in my opinion. Dr. Morton recommends the Mammoth cave of Kentucky. the temperature always being equal there, it being about 55 to 65°. not very good on account of light being absent there. It is also stated that though consumption is far from being uncommon in the southern countries of Europe. it is upon the whole, less frequent then in cold climates. this disease is wholly unknown between the tropics so it is also stated. the climate which the patient goes to, beside being mild so also be dry and equable. a mild and moderate temperature is better then one too hot or too cold. the temperature should be mild enough for the patient to spend several hours daily out of doors, without being in danger of taking cold. very dangerous to expose themselves

to extremes of heat. Dr. Rush advises Consumptive patients to spend their winter, and spring in South Carolina, and their summers, & fall in this Country, persons who have been improved by change of residence should not hurry home, but if possible should remain there the rest of their lives. those who leave home should do so in September, or the mild weather of autumn. wherever the patient is, should take gentle exercise every day, especially on horseback, but riding horseback is not as Sydenham says, a specific for this disease as quinine is for Malarious fevers. if too weak for horseback exercise, gentle gestation in Carriage but not so good as the last. or may take exercise in a boat. the advantages of horseback exercise seem to rise from its allowing the enjoyment of fresh air, and exercise without fatiguing the patient out of breath. and these advantages are great. it is asserted that many phthisical patients remain free from Cough, and those affected with haemoptysis, cease to spit blood so long as they continue to take exercise on horseback. patient should also exercise the respiratory organs as by talking, and speaking, and should bathe surface often, and wear flannel next to the skin. the physician should also recommend to the patients who are liable to have phthisis, and are in a Climate in which they are liable to breathe irritable things to forsake it. Before speaking of the next indication for treatment of this highly and important disease, I shall write a few words in regard to how the patient's mind should

be kept in this disease, the mind should be as easy, and cheerful as possible. Consumptions are often occasioned, and always aggravated by a melancholy state of the mind: for which reason, music, cheerful company, and every thing that inspires mirth, are highly beneficial. The patient ought seldom to be left alone, as brooding over his calamities is sure to render him worse. I shall now proceed to the fourth, and last indication in the treatment of this highly important disease, and this indication is to give relief as much as possible to urgent symptoms. I shall first speak of cough as an urgent symptom, it is often troublesome by violence, and by preventing sleep, if made worst by relaxed and elongated uvula, use astringents, if this treatment is of no avail, must perform the operation for removing the uvula, if the cough does not depend on relaxed uvula, but on irritation, and no fever, opium is the sheet anchor, as this is said to be the only drug that can be depended on for this purpose, at least it is the best. May give it in the dose of 1/6th to 1/4th of a grain three or four times daily, or may give an equal quantity of the tinctura opii, or the same quantity of the tinctura opii camphorata, if opium not born by the patient, may give other narcotics as Bella-donna, or stramonium, or may give —

Rx. Contusi anisi ʒ ss. } to be taken as a draught
Caladi aquae ʒ viii. } often, or may also give

the following. Rx. Potassii Cyanuretum gr 1/8th } to be used also as
Syrupus Limonis ʒ ss. }
Aquae Anisi ʒ i } a draught. — — —.

If the cough depends upon Bronchitis, or any bronchial affection, give some preparation of antimony. if rendered worst by viscid sputa use lemon juice as equal parts of lemon juice, fine honey, and syrup of poppies say for instance ℥iv a.a may be simmered together in a sauce pan over a gentle fire, and a cochlear magnum may be taken at a time when the cough is worst. other remedies used for the cough are inhaling medicated vapors as Chloriform, or Humuli ʒiff to iv aquae. also Hyosciamus. Lactucarium and Prussic acid. in other cases nothing better than good diet, but opium is counted to be the best. Next urgent symptom is disapnoea which is relieved by antispasmodics, and diffusible stimulents. in this disease patients will often deceive in regard to quantity of food taken by them, if stomach is feeble. and no irritation. tonics will be proper as iifz infusi gentianae. and a few gtts ammoniae. and aurantii cortex. if nausea and vomiting obstinate, and associated with pain, and tenderness of the epigastrium. the mucus membrane of the stomach is thined, and softened, which may be relieved by a few leeches. a blister, by the effervescing draught; or the prussic acid, aquae calcis also recommended. another urgent symptom is diarrhoea. this mostly depends upon an ulcerated state of the bowels, in those cases where this symptom could not be checked, very great ulceration has been found of the large intestines. this symptom may occur at any time. if very mild should not check it. if severe, and doing injury, attention should be given to it. may have good effect by diminishing serum of

the blood. if mild and should be checked attention to diet, and chalk mixture. if severer may give opii ¼ gr. and of cupri sulphas gr ¼ every two. or three hours, or nitras bismuthi grs V every five or six hours. Some Cases relieved speedily by free dose of animal charcoal, or tincturae Catechu, and Krameriae are of some service combined with chalk mixture, and tinctura opii. or a few grs of the confectio opii in aquâ menthae piperitae after every loose evacuation. or the injection of as much starch as the rectum will bear with x or xx gtts tinctura opii will often give the patient great relief, and suspend the action of the bowels for a considerable time. if tenderness on the epigastrium, leeches. if ulceration of bowels which is a very bad symptom, there is no treatment in this Case which will be of much avail. if any it will be of zinc. If perspiration is severe use alkalies. little fluid as possible especially at a late period of the day. or sponge the face, and surface with a saturated solution of alum. or sponge face at bed time with one part vinegar, and two aquae, or oleum Morrhuae, or acidi sulphurici aromatici if bowels not irritable in dose of V or VI gtts. and light bed clothes. the last only good where bowels are Cative, or if they have not a tendency to be relaxed as they often are. Next urgent symptom is hectic fever. which may be relieved by small doses of Quinine, or some preparation ferri & Myrrh. if debility exists animal food, oleum Morrhuae. exercise. and change of air. steel is a mother remedy which sometimes has a marked influence over this symptom, in the advanced stage of this important disease. if steel is borne well, it does a great deal

of good, in some cases instead of acting well it will increase the Cough, Cause headache, and heat of the surface, and instead of relieving the patient distress him, it is supposed to be best suited to the unmixed, or unmflamatory form of phthisis, the best preparation ferri is the ferri muriatis tinctura in dose of about xxM three times daily. For inordinate rapid action of heart most useful remedies are infusum pruni Virginianae, or hydrocianic acid, and digitalis. when the expectoration becomes difficult near the close of the disease Milk punch, or brandy and water, and diffusible stimulents as ammoniae Carbonas. To prevent bed sore, which are often an urgent, and important symptom, patient should be removed often, and alcoholic fuction, or by Covering the places with soap plaster, or what is said to be better than all, but not much use is the water bed invented by Dr. Arnnot. If Tympanitis Continues too long, and does injury, ice taken internally, Leeches, or antimony epispastics, if no Vascular excitement use astringents as the following for instance

℞. Plumbi acetas ij grs. to be taken every hour, or so until this symptom
Ipecacuahanae 1/4th gr. cease, if not good may give gallic acid, or of
Opii 1/4th gr. } turpentine, ergot of rye, or teaspoonful of table salt.

hard bed, and perfect rest of mind and body, and head somewhat high. this symptom should not be arrested too soon, unless the patient is very weak. When fistula in ano occurs, as it will sometimes, should not be cured unless it does injury, as if the discharge is large & wasting, the general rule though is not to operate. Alkalies, and Mercury, has been used to

absorb the tubercles. Not much used. the alkalies may be of use to allay Cough. Mercury should not be used in those disposed to phthisis, or of a strumous constitution to ptyalism. Alkalis also may be good to allay irritation of stomach. Before closing, I shall say a few words on oleum morrhuae, a medicine which is now used in preference to iodine which was formerly recommended for this disease. this remedy as Compared with other remedies used in this disease, is Counted to be the best, and it is in my opinion. it was recommended by Dr. Bennett for this disease in 1842. the application seems to be a bland experiment. its best result is to improve blood, and bulk of patient. patient resumes a healthier aspect, and Confesses to sensations of returning strength, and Comfort. Cough becomes milder, and expectoration less. pulse less frequent. — hectic symptoms depart, and signs of auscultation show a Corresponding change for the better. I will not enter upon the history of this oil. it is not directed to any one symptom, is thought to be the best antagonistic of the — Consuming power of the disease. the earlier it is used the better. does not purge like rest of the oils. if does not improve weight of patient &c. does no good. Capable of doing good in every stage. may act on bowels by Causing diarrhoea, if this exists the oil makes it worst. to do good the oil must be used for some time. dose to begin with is a teaspoonful, gradually increased to a tablespoonful three times daily. pale oil best. may be taken many ways best is in a little milk, or porter. easier taken by children. other remedies may be used in this disease as minute doses of arsenic &c. not as good as above. I have — closed my remarks on this disease. I please excuse mistakes. — — — — — — —

1863

An Inaugural
Dissertation
on
Measles
Submitted to the
Provost Regents
&
Faculty of the Phyic
of the
University of Maryland
for Degree of
Doctor of Medicine
by
Edward W Fanning
of
Virginia

Rubeola. or Measles.

Measles are of the order of Exanthemalous Fevers.

The exanthemalous all have a tendency to run a regular course. attended with fever. and characterized by a peculiar eruption. They are all more or less contagious. And it is a rare occurance for any one variety to attack the same person twice.

~~It is a disease of the blood.~~

The cause of Measles is undoubtedly a specific poison. the nature of which we are ignorant. though it may not be limited to common causes.

Measles as well as other maladies of

the exanthematous fevers are
undoubtedly one of the contagious
and each rarely originates alone
from its own specific poison.
But we are told by some that
they do sometimes originate
spontaneously, and the reason
given by the supporters of such
opinion is that cases have
occured where those effected were
never exposed in any way to
the morbid poison.
But when we come [illegible] how
many ways the poison is capable
of being conveyed [illegible]
it may [illegible]. for [illegible]
which is the [illegible]

of our science, has shown it is capable of being communicated [illegible] from one port to another in a box of goods, the contents of which have been exposed to the poison

And such diseases have been conveyed from one district to another where we had every reason to believe the poison was conveyed in the atmosphere.

And we see how difficult it is to prove the entire absence of the morbid poison, in the origin of such diseases

The poison of [illegible] though [illegible] [illegible] [illegible] [illegible]

Pox. is capable of being produced by inoculation, but then modified effects are produced. For in Small Pox the disease is rendered milder, in Measles no such change is produced. What light future science may throw upon the actual nature of these poisons and their Modus Operandi, time alone can answer.

Measles has its period of incubation, a precursory stage; a stage of eruption, and a stage of subsidence.

The period of incubation is from five to fifteen days.

That is this is the period that intervenes between the introduction of the morbid poison in the animal economy and the invasion of the disease - or precursory stage.

This stage generally commences with a feeling of lassitude and chilliness which are succeeded by heat & a quick pulse and loss of appetite. attended with an inflammatory condition of the mucous membrane [illegible] sneezing, watery eyes and a harsh cough.

The bowels are ordinarily constipated and tongue coated

Indeed an attack of Measles commonly presents the symptoms of common Catarrh. continueing on for a few days until the eruption peculiar to the disease makes its appearance. which is commonly on the fourth day seldom earlier though frequently later sometimes as late as the eighth day from the commencement of Catarrhal symptoms.

Sometimes in the convulsions and delirium. in cases where the eruption is slow in making its appearance. the eruption at first is

distinct. red and nearly circular spots, somewhat less in size than marks made from the bites of fleas. As they increase in number they grow together forming small patches of irregular figures, slightly raised, and on some parts can be felt by the fingers in passing over the cuticle. The patches are interspersed with spots of true skin. The eruption first makes its appearance ~~xxxx~~ on the face. then the arms going downwards [illegible] [illegible] [illegible] [illegible] [illegible]ties. It is generally two [illegible]

three days in coming out.
In this course it resembles
Small Pox. It fades in the same
order standing at least three
days on the face before it begins
to decline. The rash
disappearing on those parts
where it appeared first.
The parts which the rash had
recently occupied are left cor-
ered with a dry small scurf.
The cutich crumbling away in
fine powder ~~like~~. Unlike that
of Small Pox in this respect
for there it comes away in
the form of scabs
Measles and Small Pox [illegible]

of the same order and presenting
like features in some respects
are so unlike in others that
they are [illegible] worthy of
particular notice.
For instance in Small Pox
the [illegible] [illegible] on the [illegible]
[illegible] of eruption. [illegible] in
[illegible] [illegible] [illegible]
In Small Pox the [illegible] the
eruption the more dangerous
will be the attack. [illegible]
Measles the [illegible] [illegible]
eruption the less dangerous
will be the attack.
Indeed the most [illegible]
cases of [illegible] are [illegible]

the eruption is only partial and tardy in making its appe-arance

Though the eruption is the distinguishing feature in the disease. the Catarrhal affection is the most important. Indeed the eruption does some-times appear without the Catarrhal symptoms. And Nosologists recognize this Variety under the name of Morbilla sine Catarrhis. But it has been shown from experience that this Variety does not afford a safe protection against the occurrence of the Malady and

occasionly such varieties are succeeded in a few days with an attack[s] of Measles in its complete form. There is another form called Black Measles, in which the eruption turns suddenly livid with a mixture of yellow on the seventh or eighth day of the disease. This is said to be dangerous and is removeable by mineral acids and tonics.

Occasionly Measles visits the same individual twice but this is a rare exception to the general rule. And when such cases are mentioned we are apt to suspect that the diagnosis in the first attack was improperly made —

out. or that they had suffered from an attack of "Rubeola sine Catarrhis" But that Measles does occasionly attack the same person twice we must admit upon the best authority. Measles like other diseases of this order often prevails as an epidemic. visiting certain districts. often passing over some and stoping at others. It may prevail one season with a tendency to attack some particular organ. while in an other it may have no such tendency. this may be noticed in other forms of Exanthematous fevers.

The Diagnosis of Measles is generally easy. especially if the disease should be about. and your patient is attacked with symptoms of common catarrh. attended with fever. and a dry husky cough. you may generally know what is coming.
But to be on the safe side it is advised not to express our opinions too confidently. for it must be confessed the eruption of Small Pox on the first day is not unlike that of Measles but a little time will remove all doubt.
For as the disease advances if it be Small Pox. we should see

some fluid in the vesicles.
while in Measles we know ~~xxx~~
~~xxxxxxxx~~ there should be none.
unless what is uncommon a
few miliary vesicles mix them-
-selves with it. but it is said
these make no advance in the
course of twenty four hours.
The eruptive period is differ-
-ent. in Measles on the fourth.
in Small Pox on the third
day. To distinguish Measles from
Scarlet Fever. we know the
[illegible] commences with watery
eyes. running from the nose. cough.
and sneezing which precedes
the eruption. though the same

symptoms may occur in the latter but not before the eruption has made its appearance.
By the absence of sore throat in Measles. which in Scarlatina is one of its severest symptoms
By the eruption occuring on the fourth. in Scarlet Fever on the second day.—
By the rash in measles being more elevated. and of a different colour. it being darker than Scarlet Fever presenting somewhat the tint of a raspberry. in Scarlet Fever it has a scarlet hue and has been compared by some in appearance

to a boiled Lobster.
Measles are often complicated with other diseases. especially Bronchitis. and Pneumonia. and may be detected by their physical signs. by auscultation, and percussion.
The Prognosis of Measles is generally favourable of itself.
But it is often connected with other diseases. especially those which involve some of the organs of the Thorax. And the most fatal cases that have been recorded. have been from such combinations
And too often we find in persons who have suffered from an

attack of Measles, traces of disease of a chronic character have been left behind, especially if he be one of advanced years, although a disease commonly seen in children no age is exempt from it.

It is said to be dangerous when it attacks pregnant women, children have been born labouring under an attack of Measles, having been communicated to them from their Mother, who was suffering from an attack, it having been communicated to them while yet unborn.

But when the eruption comes

out well. and fever moderates upon its appearance. and not compli-cated with Pneumonia in winter or Diarrhoea in summer we may commonly expect a safe recovery.

The treatment of Measles in its uncomplicated form is generally simple. it being a less dangerous disease of itself than either Small Pox or Scarlet Fever.

Drugs are not often necessary. The patient should be confined in a room of even but accusto-med terperature. using no more clothing than is agreeable to the feelings. Right diet. such as nice

water. water gruel. Cool drinks can generally be allowed. But sponging himself with cold water. or exposing himself to ~~xxxx~~ draughts of cold air are unadvisable in this disease for fear of inducing inflamation in some of the Thoracic Organs. against which it should be our chief efforts to guard.

We should keep the bowels open with some mild Cathartic. as castor oil. A diaphoretic may be given— Dovers powders will be found very good.

But in the course of the disease if the patient should expose him-

-sel and take cold and inf
-lamation be set up in the
Thorax. thereby causing Pneumo
-nia for instance a more active
treatment is necessary indeed
it is generally in this form that
we are called to see a patient.
and too often such cases prove
fatal. The treatment of diseases
when complicated with Pneu
-monia is very much the
same were the disease Pneumon-
-ia alone. If he be one of good
constitution and pulse strong
and full it will be necessary
to take blood from the arm
in addition to which cups are

often called for. Small doses of Tartar Emetic will be found expedient for its antiphlogistic properties. Blisters are often good in this form of desease after the fever has somewhat abated. calomel and opium often necessary. But in weak constitution we must depend on cups.- peperations of antimony. and if nescessary calomel and opium. If the patient should be weak he should be supported by stimulents as beef tea. wine and often quinine is useful - quinine is highly spoken of in cases of gangrene of the mouth

If diarrhœa should occur of a too serious nature. Chalk mixture will be found useful. and if cough troublesome. Laudanum can be added - or some of Browns Mixture. If Bronchitis should be combined with Measles it should be treated nearly the same as though it were simple Bronchitis.

If the eruption should be tardy in coming out. or should suddenly disappear from the surface. the patient should be put in a warm bath to which a little mustard or common salt can be added. giving at the same time minute doses of Antimony.

The patient should always avoid taking cold while recovering from an attack of Measles. Though a disease of itself requiring but little treatment. we should be mindful of the danger of a attack from exposure to cold by which Pneumonia is generally induced. And when we are reminded of the number of deaths that occur annually from this disease in combination with Pneumonia. We see the importance of such advice

The only safe prophylactic I know of is to avoid exposure to the poison.

The exanthematous fevers are all full of interest as well as being involved

in a good degree of mystery. But it must be our duty. those of us who have felt it our calling to persue such a noble science. the science of Medicine learning to assist nature in her works to relieve suffering humanity. in easing their pains - and curing there deseases. to ever be willing to learn and by it find out all in relation to our science. which may assist us in the discharge of our responsible dulies.

An Inaugural Dissertation,
on
Typhoid Fever,
Submitted to the Examination,
of
The Provost Regents,
and
Faculty of Physic,
of the
University of Maryland,
for the degree of
Doctor of Medicine,
by
J. W. C. Cuddy,
of
Maryland.
1863.

Each student being favored with the privilege of selecting his own subject for a thesis, I have taken the subject of Typhoid Fever. I have not selected this, on account of being able to produce anything new in the pathology or treatment of it, but because I believe it to be one which demands of the student of Medicine, that he should endeavor to gather all the knowledge possible concerning it, on account of its great destruction to human life. It is also necessary that the medical practitioner should devote a great share of his attention to it, in order to find out, if possible, a radical and successful remedy, for this dreadful scourge, which is continually hastening mortals to the spirit world; and, in order to fulfil

his high and noble calling, which is to alleviate and remove the pains of suffering humanity.

The inhabitants of all parts of our country are alike subject to the influence of this ravaging disease. Among the snow-clad hills of the North, this dire disease finds its way into family after family, to sweep away some loved member. Along the rolling prairies of the West, habitation after habitation becomes the home of decease and Typhoid Fever does its deathly work, and creates a home of former joy, into one of sadness and mourning. Far down in the sunny South, where balmy zephyrs, fragrant with a flowery odor, happlessly become blended with the pestilential breath of miasmatic matter, the human system becomes the seat of disease, and the subject of our thesis

draws our last enemy into our sick chambers, and the spirit of the dying sufferer is wafted to another world. Throughout our entire land, the rising slabs of sculptured marble warn us, as physicians, to become more devoted to our profession; and where, I ask, is a disease that demands greater study, than that, upon which we are now writing?

There is no season of the year, that this malady may not lay hold of the human system. When the cold chilling blasts of a cheerless winter are sweeping around our dwellings, our homes may be made more cheerless, by the entrance of the unwelcome guest, gaunt disease, in the form of Typhoid Fever. Beneath the burning rays of a summer's sun, this malady is as liable to seize upon its victims as at any time of the year.

So, also, in the more pleasant days of Spring and Autumn, when all is pleasant and cheerful around our happy homes, this disease may place us upon a bed of sickness, as well as amid the cold of winter, or the heat of summer.

This disease has no choice as regards class in society, or standing in the world. The rich and the poor are alike subject to its fearful effects. The ruling monarch, with his mind perplexed with the care of his country and his subjects, may be made the victim of Typhoid Fever, and caused to writhe in agony, upon his royal couch, in dread of the final doom that awaits him. The peasant, also, in his lowly cot, laboring with both body and mind for the preservation of his poverty-stricken family, is often obliged to lie upon his

pallet of strair, and suffer the ragings of a burning fever, as well as the more fortunate of his race.

As regards age, this disease seems to have its choice upon those just in the prime of life. It seems, as it were, that it deems the cherub infant, and prattling boy too sweet and interesting, to be destroyed or pained by its burning grasp. It seems, as it were, that this almost relentless disease is awed & moved by a mother's love, and those in the early morn of life are spared the sufferings caused by a raging fever. So also with the aged and decrepit. It seems to regard them as hurrying with sufficient rapidity to the terminus of life, and to think that they, by nature's laws will soon overstep the boundary of the grave. But the middle-aged of our race, those in the prime of life, living with

bright anticipations of a happy future,
are the ones whom Typhoid Fever selects
to suffer for weeks, and then only to be
relieved by death, unless rescued from
their unenviable position by the aid of
our high and noble profession.

The subject of Typhoid Fever opens
out a broad field for words, but it can
not be expected that in a thesis of this
kind, which must necessarily be brief,
that much can be brought forth, but
having read, with some care, several
writers on this subject, I will endeavor
to pen down as far as my knowledge
extends, some very brief remarks concer-
ning the cause, course, symptoms and
treatment of this disease.

I will first speak of the symp-
toms. Sometimes this disease begins
abruptly, its advent being attended

by a severe chill, which is immediately followed by the symptoms usually characteristic of fever. But more frequently we are unable to fix the precise point of its commencement, as in a majority of cases it comes on insidiously, and increases in gradual severity, until the disease is fully established. The patient complains of being uncomfortable, and wearied, and often has no desire, or is unable to attend to his daily avocations. Thus he passes several days, with attacks of headache, and numbness of the limbs, with a depressed countenance, until the severity of the disease compels him to relinquish all attention to business, and the feverish grasp of this terrible malady places him prostrate upon a bed of suffering.

When the disease has fairly

set in, it exhibits all the ordinary phenomena of fever. The pulse is considerably accelerated in most cases, though there are instances in which it does not exceed ninety in the minute, and then with considerable fulness and strength, but as a general rule, it is small, frequent and compressible, and often amounts to one hundred and twenty. In addition to this, there are heat and dryness of the skin, flushed face, loss of appetite, and general weakness. These symptoms continue to increase for several days, and to which are added, transient pains in the abdomen, and a slight cough, which is frequently attended by mucous expectoration.

At the beginning of the second week, other symptoms are added to those already mentioned. The tongue, which was moist and clammy during the

first week, frequently becomes dry, and assumes a brownish color. The patient swallows with great difficulty, and the act of deglutition is often attended by very severe pain. If the disease continue, its unfortunate victim is doomed to become feeble and emaciated, and those parts, which are exposed to continued pressure, are often known to slough.

There are certain symptoms, which occur in the progress of this disease, which I will notice more particularly. The first of these is diarrhea. This symptom is present in so large a majority of cases, that most writers consider it one of the diagnostic signs. The diarrhea sometimes precedes the fever, but mostly commences about the second day after the attack. It is generally accompanied with pains in the abdomen, which are very troublesome,

though not usually very severe).

One of the most characteristic phenomena of Enteric, or Typhoid Fever, is what is called the rose-colored eruption. This eruption consists of small red spots, which appear in successive crops, which remain three or four days, and then gradually fade away. They never make their appearance till after the seventh day. They always disappear upon pressure of the part, by which means they may be distinguished from petechiae, which sometimes appear in this disease, but are by no means its constant attendant.

Hemorrhage is another very frequent symptom. The epistaxis, attendant upon Typhoid Fever, is usually very moderate, and there are very few cases in which it proves alarming to any extent, or demands the interference of remedies. On the contrary, hemorrhage

from the bowels demands the careful and immediate attention of the practitioner. It never takes place only in the advanced stages, and is always considered as a bad sign, it being injurious by the exhaustion which it produces.

During the first few days of illness, the patients mind is as clear as when well, and assuming the active duties of life: but often about the commencement of the second week, delirium supervenes, and the tranquility of the sick chamber is sadly changed, and the sick sufferer frequently becomes a raving maniac. Occasionally however, the delirium is mild, and indicates rather, want of power in the brain, than irritation.

These are the main symptoms which characterize Typhoid Fever. All

of them are not present in every case, this disease, like all others, being subject to some variations. In many cases it is mild, and terminates favorably in ten or twelve days, though its usual duration is from twenty to twenty-five days, yet many cases are protracted from five to seven weeks, and even longer.

I now come to speak of the causes. As regards this, the circumstances which produce this disease are so diversified that nothing precisely is known of its cause. It seems that there exists in many persons, an inherent disposition to this disease, which may be called into action by different exciting causes, or, perhaps, by any cause which considerably disturbs the vital functions. It is often generated in a

confined or vitiated atmosphere, or by a want of food, or if there is a sufficiency of food, it may be on account of its unwholesome quality.

There are several known exciting causes, some of which I will mention. Among these is fatigue, or over-exertion. Thus it is that this fever is more prevalent among the laboring classes - those who earn their living by the "sweat of their brow" - than among those who sport in opulence and wealth, yet this latter class, as I said in the introductory, are not entirely free from its fearful effects.

Continued exposure to the warmth of the sun is another cause by which Typhoid Fever is generated in the human system. This partially accounts for the many cases with which we meet during the intense heat of the summer

months.

Exposure to the many changes of weather is another very great cause of fever of all kinds, and is, of course, equally so with the one which we are now considering. Thus it is we meet with Typhoid Fever along the banks of our broad and crystal streams, where during the hours of early morning a thick fog overspreads the land, and the tall spires of the meadow grass are covered with drops of pearly dew, until the king of day, with his mighty strength bursts through the almost impenetrable fog, and by his radiance dispels and scatters those mists and fogs, which seem determined to implant disease in the human frame. And when evening comes, and

"Night throws her sable curtain round
And pins it with a star."

the heat of the day, which was almost intolerable, is dispelled, and the cool breath of night plays around our couch, so that when we seek our balmy sleep, we must envelop ourselves in the thickest of covering, and then, perhaps, our entire frame will tremble with a chill which is, doubtless, the opening of the bud, in its incipiency, which is to ripen into the very fever, on which we are now writing. These are the localities where Typhoid Fever seems destined to do its deathly work.

Another, and the last cause of which I will speak is mental disturbance. This, I believe, is the exciting cause of more cases of Typhoid Fever, than all the other causes combined. This is a cause of disease, which seems to be known by everybody of

every class, and yet how few will regard the sad warnings given by it throughout our land? Persons eager for wealth, for learning, for fame, or for honor will labor with the mind continually day and night, to accomplish their desires - regarding the happiness of a few fleeting years, caused by the fairy bubbles of wealth and honor, as greater than a long life time of happiness of uninterrupted health. The merchant, with his mind bent on glittering gold, sits in his counting-room long after the day has closed, (and the little stars send their flickering light in at his office window) and adds up column after column of figures, showing the profits of the day, and then, with noiseless step, he treads along the still and quiet street, to his home, to seek a few hours of repose, forgetting that

he is violating nature's laws, and allowing disease to seize his frame with a firm and unrelenting grasp.

The Grecian and Roman philosophers believed that "the dead of midnight is the noon of thought", which fact seems to be corroborated by students and poets, whose midnight effusions seem characterized by deeper thought, and always clothed in brighter colors, yet while they please the minds of others, they are building for themselves a broad foundation, on which disease may rear its giddy structure.

The student of literature within the classic walls of some University, often sits at night long after his time-piece tells the hour of twelve, and finds a secret satisfaction in poring over the musty volumes of antiquity with a firm determination to excel. His eye

is lit up with joy to know that he can sit and read the words there written by those much-admired men, who long since trod the fields of classic Greece, or walked in pomp and pride along the streets of wide-imperial Rome. But while his heart is buoyant and exultant, he is doubtless stupefying the mind, and in the soil of the brain, the seed of disease is taking firm root, and which may terminate in making the young and aspiring student a sad subject of Typhoid Fever.

The causes which we have mentioned, — fatigue, exposure to warmth, change of weather, and mental disturbance — seem to be the main exciting ones of this fever. There may be other incidental causes, which may tend to bring it on, but they are few. These

if always avoided, will afford a very good safeguard against the ravagings of this dreaded malady.

As regards the diagnosis, our main guides are the frequently slow mode of attack, the diarrhea, the dull expression of the countenance, the tendency to epistaxis; and after some time, by the rose-colored eruption the tympanitic abdomen, the delirium, and other means, which I have already mentioned among the symptoms.

In making out the prognosis, it is necessary that we should be careful in expressing our views, as it is very difficult to tell the termination of the case. In all stages of the disease there may be hope of recovery, as patients have often recovered when both friends and physicians regarded them as being on the very verge of

death. The patient, therefore, should never be given up only in articulo mortis.

When a case is to terminate favorably, the tongue becomes moist, the pulse becomes less frequent, the skin cooler, delirium subsides, the patient is more attentive to things around him and a desire for food returns. But on the contrary, if the pulse give way and become fluttering, if the extremities become cool and clammy, and the body bathed in a clammy sweat, and hiccough occur, there is but little hope, and life may be quickly and almost insensibly extinguished.

The last division of my thesis is the treatment, of which I now come to speak. It is necessary in the beginning of the disease that the.

bowels should be thoroughly evacuated, to avoid irritation of the intestines. We should, however, never resort to any very active purgatives, on account of the diarrhea which is generally present, or if no diarrhea, there is more than a usual susceptibility to the influence of cathartic medicine. To accomplish this, it is only necessary to give a small dose of castor oil, or of the sulphate of magnesia. When the patient complains of the diarrhea being attended with pain, we may with propriety, and generally with great benefit, administer fifteen or twenty drops of the tincture of opium, in connection with the castor oil. Almost any mild laxative may be used in the early part of the disease, as a single Seidlitz powder, or, one or two drachms of Epsom salts; but when

there is soumess of breath, magnesia should be preferred, in dose of half a drachm, to be repeated, if necessary.

After the evacuation of the bowels our next object should be to obviate the febrile symptoms. Venesection may be resorted to when the pulse is full and strong, and there is a determination of blood to the head. Ten or twelve ounces of blood may be taken from the arm, but as the natural tendency of the complaint is to debility, we should be careful when to resort to it. We should never bleed after the first week. In cases of cerebral excitement, we may make use of cups and leeches. From the commencement of the disease, we should use refrigerant diaphoretics. Of these, the citrate of potassa is to be preferred. If the bowels are regular, and the pulse firm, we may

combine small doses of tartar-emetic with it. Some one of the preparations of opium may be given, if it produce uneasiness of the bowels. The citrate of potassa may be given every two hours during the day, but during the night the patient should sleep, and for this purpose a dose of Dover's powder may be administered.

We should make use of cold ablutions, sponging the arms, legs, and temples well with cold water, to which diluted spirit may sometimes be added. Severe headache is best treated by leeches: and pains in the abdomen by emollient cataplasms. All nervous symptoms may be often quieted by Hoffman's anodyne. Opiates may also be given, if there be nothing to contraindicate their use.

During the second week if the

symptoms, which we have before described, supervene, there is nothing so effectual as mercury, given in doses to affect the gums slightly. A grain of blue mass every two hours, should be given, until the mouth is affected. When the stomach is not irritable, ipecacuanha may be associated with the blue mass. We should always guard against ptyalising severely. If, after this, the symptoms do not yield, our most excellent remedy is the oil of turpentine. It is best given in doses of from five to twenty drops every hour or two, in emulsion with gum arabic, loaf sugar, and water.

In the debility attendant upon the latter stages of Typhoid Fever tonics become essentially necessary. When the pulse is feeble, the skin cool, and dark sordes become incrusted on the teeth and tongue, we should at once resort

to them. Wine-whey, in dose of from a tablespoonful to a wineglassful may be given every two hours. If the strength become greatly reduced, pure wine or brandy may be substituted for it. Where the prostration is very sudden, sulphuric ether forms a very good remedy. The preparations of bark are considered very useful. The sulphate of quinia is a very good remedy, and may be used in connexion with serpentaria. When the skin is cold at the same time that the system is debilitated sinapisms should be applied to the legs and arms, and the surface of the body should be rubbed with hot oil of turpentine, or cayenne pepper heated in brandy. Great delirium is best treated by removing the hair from the head, and applying a blister to the scalp.

In the early stages of Typhoid Fever, the diet should be very light, such as

toast and water, weak solutions of sago, arrowroot, and vegetable jellies. Cold lemonade, or pure ice water may be used as drinks. When debility becomes apparent the patient needs more nutritious diet, as panada, and preparations of tapioca, well flavored with nutmeg. Milk is very advantageously used in the latter stages. In the lowest stage the best diet is the essence of beef and mutton.

During convalescence the bowels should be kept regular, which may be accomplished by mild laxatives or enemata. Great exertion should be avoided, and the reviving sufferer should gradually regain his former modes of life.

Thus I have, with my feeble efforts penned down an imperfect thesis

on the subject of Typhoid Fever. I have, I believe, kept nearly in unison with the views of our standard writers, and also with those of our most excellent and able Professor of the Practice of Medicine — Dr. Samuel Chew. And, in conclusion, I have only to regret my inability to present you with something more worthy, than the one which I now offer.

An
Inaugural Dissertation
On

Scarlet Fever.

Submitted to the
Examination of
The
Provost, Regents, and Faculty of
Physic
of the
University of Maryland
for the

Degree of Doctor of Medicine.

By
J. A. Holmes
of Washington County, Md.

1863

I have after mature consideration selected a disease of most interesting nature and one of as much import as any in our catalogue of innumerable diseases. I allude to Scarlatina or Scarlet fever one of the class of Exanthematous diseases characterized by fever and the appearance of an eruption on the second day, which ends in desquamation about the sixth or seventh day. Concerning the origin and early history of this disease little seems to be known although I should imagine it existed as early as others of its class namely Small pox Measles &c and in all probability had been always confounded with Measles. The characteristic difference between Scarlet fever and Measles was first fully specified by Dr Withering. Scarlet fever has

been devided into three varieties the Simple Anginose and Malignant Though cases occur in which the Symptoms of the three forms are so blended as to render it a matter of extreme nicety to discriminate the type of the case. However it is essentially the same in all its varieties and produced by the same cause. I shall therefore describe it generally and afterwards Speak of its several Modifications.

Symptoms

Scarlet fever begins as the Exanthemata in general begin. with pain in the limbs generall debility. hot and dry Skin a white furred tongue. followed by Chill and fever and headache with an occasional evidence of nervous derangement principaly the brain being the seat causing violent delarium and Como-

The entire symptoms of this dis-
eas vary considerably in different
cases as well as in different indi-
viduals. The constitution of the patient
has a considerable effect in ren-
dering the diseas mild or otherwise.
I have seen it at the same time
assume all its various appear-
ances in different individuals
of the same family. But what
circumstances in the constitution
rendered the disease mild or otherwise
is not so easily ascertained.
Though we have reason to believe
that it is most severe in the
debilitated and the plethoric. Sometimes
the symptoms are so mild as scar-
cely to demand any attention
while at others so perilous as to
prove fatal in a short time.
Upon the approach of the fever
there is generally some irritation or

inflamation of the Fauces which on examination present a red and swolen appearence rendering deglutition often difficult. The uneasiness of the throat is sometimes among the first symptoms and in some cases it appears before any other. The sore throat is not often attended with cough or other catarrhal symptoms but frequently with a sense of stiffness in the muscles of the neck. The rash appears generally on the second day though it may appear earlier or later and when later it is considered an unfavourable sign. It first appears on the face but soon spreads over the neck breast trunk, and at length over every part of the body which often appears uniformly red. When this is the case the

prognosis is better than when the redness appears here and there in blotches. The degree of redness also varies much. It is sometimes so pale in certain cases as not to be very remarkable. In other instances the whole body is so red that it has been compared to a boiled lobster. Dr Watson remarks that the scarlet colour is deeper generally about the groins and in the flexures of the joints than the other parts of the body. The febrile symptoms at this stage are quite prominent. But its intensity seems not to be increased by the appearance of the eruption. The pulse is usually frequent but rarely beats with violence. On the approach of evening there is often an-

exacerbation of the entire symptoms. particularly of the fever which is apt to affect the mental functions producing delirium or coma - The affection of the throat is in some cases mild but generally constitutes the most prominent and troublesom symptom. The disease reaches its height from the fifth to the tenth day. When it is to terminate favourably. all the symptoms begin to decline. The pulse beats more healthy the tongue casts off its fur and assumes its natural appearance.

Disquamation generally begins with the decline of the eruption. The cuticle separates in minute scales. except where it is thick as on the palms of the hands when it comes away in large flakes leaving the part very sensative.

If the case is now uncomplicated the patient may be considered nearly convalescent though not entirely exempt from any of the affections that are so often the sequelae of Scarlatina. Should the case be complicated and terminate fatally it may be from either one of the following causes. inflamation of any of the vital parts or a shock to the nervous System. Diseases of the Stomach and bowels may prove fatal or the patient may die from the malignant character of the affection itself. or from some local discharge.

Scarlatina Simplex

Is the forme in which there is only the fever and eruption without the affection of the throat

But I deem it scarcely necessary to mention this class. as cases without an affection of the throat are so rare and generally so trivial as scarcely to merit the name of disease. Although I believe the term is used by most authors to express those cases in which there is fever and rash with a moderate degree of inflamation of the fauces. The eruption is usually the first and most prominant symptom which is observed appearing on the face and neck before being transmitted to various parts of the body with a moderate degree of inflammation of the fauces. The febrile symptoms are often severe with hot dry skin and occasionally slight delirium. Thes Symptoms

all continue until about the fifth day after which they begin to decline.

Scarlatina Anginosa

This V. Release is the most common and important of the three varieties of Scarlatina and the form from which the other two varieties diverge. Commencing with its characteristic stiffness of the jaws and difficulty of deglutition. The eruption is generally later in appearing and less copious than the preceding variety. The fauces and tonsils on examination presents a deep red and swollen appearance. The mucous membrane is often ulcerated or gangrenous in patches. The Mucus exuded is of a yellowish or dirty white color and the

and the patches are sometimes so large as to extend down into the larynx producing symptoms of Budo membranous croup.. The lining membrane of the nose is often involved exhaling an acrid discharge. It is also red and swolen almost closing the nasal orifices and thereby rendering inhalation very difficult.. The inflamation often continues its ravages along the Eustatian tubes to the Ears causing a purulent discharge and sometimes so intense as to produce permanent deafness. The Eyes may also participate in the inflamation and the sight of one or both may be entirely distroyed.. The parotid and submaxellary glads are not exempt from the inflamation They become so much swolen and so painful that the.

patient can with difficulty open his mouth wide enough to admit of an examination of the fauces.- In favourable cases the disease reaches its height about the eighth day - when the symptoms will begin to decline. The eruptions fades the Tongue throws off its fur and the Pulse returns to its natural Standard. and if all things progress favourably the patient may in a few days considered convalescent. But the case may assume a Typhoid character the pulse becomes exceedingly feeble the tongue almost black with sordes on the Gums and Diarrhea may set in.- Than the patient exhibits signs of extreme prostration. a recovery than can scarcely be expected. But this rather belong to the class that we next have to Consider.

Scarlatina maligna

This term is used to define that variety of Scarlet-fever in which the symptoms manifest an extreme degree of weakness or depravity. The malignancy seems to depend upon the intensity of the existing cause or upon some local affection or a case may commence either as the simple or anginose and its course assume the character now under consideration. This malignant type is attended with the symptoms that usually attend the other forms of this disease but with greater severity. The patient complains of great debility and oppression. The face is pale the features sharp sunken. The eyes hollow and deprived of their natural lustre with often violent headach. The body is alternated with flus

flushes of heat and cold.
The breathing difficult. The
pulse at times is strong and
hard but more frequently weak
and very rapid. The fauces are
in this stage of a deeper redness
and deglutition more difficult
than in either of the other
varieties. The exudations is almost
black with deep ulcerations in the
throat sometimes destroying the neighbouring parts. The gums are eaten
with sordes. the lips fissured and
hemorrhages from the mucous membrane
are not unfrequent. Collapses
at length takes place with haggard features a cold skin fluttering
pulse and involuntary stools and
death takes place within the second
week.

Scarlatina without Eruption
Has another variety of the above disease

Which deserves my notice. It is well known that during an Epidemic of Scarlatina cases not unfrequently occur within which there is some sore throat and slight fever resembling the ordinary disease. with the exception of the eruption This is said to be capable of producing genuine disease and if so it is no doubt the same in a modified forme.—

Cause.

It is very difficult to forme any conclusion with regard to the cause of Scarlatina but it is considered specific and I think certainly of a contagious nature although this has been doubted by some eminent men. yet I think erroneously. But it is generaly thought to act throug the medium of the atmosphere. Cases are also

Mentioned in which Inoculation has been most successful. Scarlet fever occurs either epidemically or endemically and of different grades of violence in different cases. No age is entirely exempt from the disease but adults are much less liable to it than children. It prevails at all seasons of the year and generally attacks the same individual but once. The period of incubation varies greatly from four or five days to two weeks or even more.

Symptoms

In the almost endless catalogue of diseases to which the human frame is subjected there is none that bears so great a number of evils as does scarlet fever. The most common of all is perhaps a

Copious discharge of pus from some part of the Ear. The Eustachian tubes at times ulcerates leaving the patient permanently deaf. The nostrils may be similarly affected occasionally producing Ozena.. The testeas and joints may also becom swolen and painful. Or diarrhea may occur besides numerous other attendents. Dropsy is perhaps one of the most common of all the Sequeleas. It may occur in any one of its forms particularly Anasarca. Though it is not often obstinate unless the brain or the heart become involved

Anatomical Characters

On examination after death it is sometimes impossible to detect any lesions. at others the tissues exhibit evidence of inflamation

or ulceration. When the patient has died within the first three or four days all the redness may have disappeared immediately after death. Various internal organs are often denuded. The alimentary mucous membrane or kidneys are inflamed or congested.

Diagnosis

Scarlet fever is very difficult if not impossible in many cases to distinguish from other febrile diseases particularly measles but from this it may be known by the absence of the Catarrhal Symptoms and the occurrence of the eruption on the second day instead of the fourth. The colour of the eruption is of brighter red in Scarlatina than in Rubeola and less rough to the touch. It may be

more readily distinguished from either Erethema or Rosiola by the intense fever which attends Scarlatina and by there being little or no constitutional disturbances in the latter diseases—

Prognosis

This depends much in the first place upon the character of the Epidemic and upon the Constitution of the individual.
Though in any Epidemic a case may begin with the mildest Symptoms and afterwards assume a most malignant forme. Some persons have naturaly a stronger tendency to malignancy than others and in them the prognosis is of cours always more unfavourable Females bear the disease better then the male except when pregnant or menstruating—

A sudden disappearance of the Eruption with Continual delerium hemorrhage or extensive gangrenous ulcers are considered among the most unfavourable symptoms.—

Treatment

Had we a perfect knowledge of Medicine there would be no need for what is termed a System of the practice of Medicine. In many cases we have little else to conduct us in the treatment of diseases but the knowledge of what has formerly proved beneficial or hurtful. And this seems to be the most valuable information we have in regard to the treatment of Scarlatina. In the simple forme of this disease it is not

Necessary to interfere more than to keep the apartment cool and well ventilated. The diet should be mild and farinaceous. The drinks cool and the bowels should be kept open by mild laxatives and if the heat of the surface is great the body should be sponged with tepid or cool water. With regard to the management of the Severe forms of Scarlet fever. The opinions of the different authors greatly differ but our greatest care should be to watch the disease in its various stages and guard against unfavourable Symptoms to meet the local inflamation and treat it upon the general rules for the treatment of fever. For this some Authors highly recommend bloodletting by the Lancet.

While others say they would
not employ it under any
circumstance in this disease. I
believe I should be unwilling
to employ it especially while
we have other means that we
may subdue inflamation with-
out endangering the life of the
patient. Emetics have been used
with advantage in this affection.
In the beginning when the tongue
is much coated and we have nausea
and the tonsils swolen The best
is Specacuanha. and Tartarized antimony
this may be used with benefit
unless there is Symptoms of ce-
rebral disturbance when they
should not be employed. Purgatives
should only be used to keep the
bowels regular and to prevent
constipation They should be
of the mildest kind. as. oil ricina & magnesia

The Solution of the Chlorate of potassa is often used as a drink and decided benefit obtained. The Solution of Chloride of Soda has also been highly recommended by some authors and is thought to be much better as remedy in the affection than the Chlorat of potass. It is indicated more potentially in the Malignant forme of this disease. When there is prostration of Strength and a dry and furred tongue. It is said to be of essential service in improving the Secretions producing a moist state of the Skin and cleansing the furred tongue. And it is also great Service as a wash to check Ulcerating and Sloughing of the throat It may be employed also as an injection for the Nostrils in Coryza. which is very troublesome at times.

Garglies of other remedies
may be used as Creasote alum
Chlorid of lime Sol. Nitrat of Silver
and a good and simple one is
the Decoction of white oak bark.
Counter irritation may often
be beneficial. Among the
many agents which has been used
are the volatile Liniment Oil
of terpentine Aqua ammonia and
blistering. but the latter of those
should be employed with great
caution as it is apt to cause
sloughing in debilitated cases.
Tonics and Cordials should be
administered if the patient
shows any Symptoms of sinking
The best are the Sulphat of Quinine
and the Carbonat of ammonia.
Ammonia is given internally for
its Stimulent and diaphoretic
effect it is thought to be a

much better remedy in this affection than Opium or alcohol Carb Ammo acts on the nervous system chiefly. The two latter more on the cerebral. Ammonia is used by the most able of the profession in cases when they know from experience that they must not employ wine or opium or its tinctures. During convalescence the strictest attention should be had to the patient till the time is past for the dropsical symptoms. They are no doubt often brot about by imprudence of the patient exposing himself to cold and dampness. He should be kept in the house until desquamation is fairly past and then should only be allowed to go out when the weather is equable.

When thes Symptoms do ap-
pear and are not of a Serious
Character the treatment found
most Successful are diuretics
and cathartics. But there
is Something to be dreaded
till more than all. That is acute
inflamation. Thes inflamatory
diseases are also often brought
on by imprudence. The great
danger then is the pouring
out of fluid and lymph in
the Serious cavities of the body
The object then Should be to
Check the inflamation at as
early a period as posable and
assist the absorption of the
fluid by the adoption of the
most vigerous but cautious measures.
as General and local depletion.
Counter irritation and the exhibition of pur-
gative medicins and Calomel and Opium

Prophylactic

Respecting the means of prevention. Surely there could be nothing of more importance than the discover of some agent that would act as a prophylactic. Dr Hinds says he found Rhubarb given in small doses so as to support a moderate cathartic a good preventive. Belladonna has also been spoken of be different authors. as being a protecting influence on the body against the contagion of Scarlet fever. but this influence which has been assumed for it have never been established. Its introduction into practice as a prophylactic in Scarlatina is owing to the absurd Homoeopathic axiom

Rippard Wm H
1863

Compound Comminuted
Fractures
of the thigh

These fragments and splinters will be driven
[illegible]
give rise to extensive suppuration and necessary
[illegible] of pus.

It has been advised by a great many
surgeons, that if the [illegible]
allowed [illegible]
[illegible] to [illegible]
it is safe and adviseable to let the limb
[illegible]
[illegible]
[illegible]
[illegible] to the
[illegible] irritation
of these fragments [illegible]

Case.

R. M. Brown. a carpenter [illegible]

wounded in the Streets of Frederick Md.
by a revolver conical ball. The ball entered
[illegible] and could
not be found. The bone was broken
in a very oblique manner, the line of fracture
commencing about two inches above the wound
[illegible]
the trochanters. When he came under our charge
one of Smith's anterior splints had been applied,
[illegible]
he had been neglected to bring the point
[illegible]
limb was some three inches shorter than the
other. The splint was removed and Bucks
[illegible]

weight of about ten pounds which in the course
[illegible]
long as the other. After a while the pus
commenced to burrow up the limb which at
first was restrained by a Scultetus bandage,
[illegible]
[illegible]
[illegible] to [illegible] incision
[illegible]
[illegible] bad [illegible]
introducing the finger, the [illegible] was
found to exist among the muscles
immediately next the bone, which latter
[illegible]
[illegible]
[illegible]. From this time
[illegible]

nutritious diet, plenty of stimulants, Iron,
and Quinine, commenced to sink. Copy
[illegible] and on Nov. 7th he died
P. M. 8 hours after death revealed that the
[illegible] the bowel was found perforated
[illegible] some two and a half inches in a narrow
[illegible] but had not perforated the skin
fascia or the peritoneum.
Case W. H. York. Lumberer. aged 30
[illegible] splendid

physical ability. was wounded at the battle of Antietam, by a minie ball which entered the inner side of thigh, two inches below the [illegible] of the [illegible] fractur-ing and greatly comminuting the femur and was cut out directly opposite. Came under our care either the 2d or 3d of Oct, when the wound was examined by the surgeon and two large pieces of bone extracted. His leg was then placed in [illegible] apparatus [illegible] weight of the [illegible] Oct. 10th The [illegible] discharging a great amount of healthy pus. Treatment [illegible] to be doing well. appetite good, bowels regular. Oct 14th Found that he had also a small [illegible] the [illegible]

Strength not so good. Oct 19th. Strength failing, appetite poor. Oct 21st still failing, diarrhea with involuntary stools for several days, which refuses to yield to remedies. hectic fever and dry tongue. Oct 28th diarrhea [illegible] and he feels stronger. Pulse is fair and rather weak Nov. 1st Diarrhea recommenced, respiration labored. The wound in the back is discharging considerable but [illegible] pus. Nov 9th Breathing frequent and almost inarticulate, mind wandering

Nov 14th Died

Now here were two strong men, of splendid constitutional powers, just [illegible] by the extensive suppuration. Both were in good condition when first brought in and it [illegible] claimed they might [illegible]

far better chance if amputation had been resorted to.

In the treatment of these fractures when they are such as will justify an attempt to save the limb, our first object is to keep the limb steady and in such a position that the patient will suffer the least possible amount of pain, and next to avoid the [illegible] effects of the muscles which occasion shortening and deformity. To do this many [illegible] apparatus is applied to [illegible] and mechanical ingenuity has been at work for a long time trying to devise a cheap and simple splint capable of performing the above mentioned work. There are two splints which I think [illegible] & have proved of inestimable value during

the practioner. I refer to Prof. Smith's anterior splint and Buck's apparatus. Both of these are so well known that it is useless [for] my giving a description of them.

When a patient is brought in suffering from this kind of fracture, we must carefully examine the wounds and extract all fragments of bone that can be removed then the wounds carefully cleansed, the limb placed in the desired splint and cold water dressings applied. The limb must be closely watched and all abscesses [illegible] opened as soon as they begin to form to prevent burrowing. It is of no use trying to prevent the wound to be [illegible] [illegible] by the use of [illegible] and [illegible], for in all cases in which I have seen them employed [illegible]

failed. It stands to reason that when we attempt to prevent this burrowing by bandages we are just as likely to increase it, for when the pressure of the bandage is brought to bear on the surface, it will drive the pus in the [illegible] and therefore leave some small quantities behind and as it increases and has a tendency to escape the bandages prevent it, and so to make room for its constantly increasing volume it tunnels along the muscles where we have the least resistance. We must also pay strict attention to the bandaging and watch to prevent any unequal pressure which is apt to [illegible] the skin and give the patient a great deal of pain and suffering. There is nothing that you should

to [illegible] of the patient [illegible]
to the surgeons skill than a neatly applied
[illegible]
[illegible]
on a mere thread and the presence of one
[illegible]
this apparently trivial thing bandaging
Great attention must be paid to [illegible]
[illegible]
at least [illegible]
briskly with a moderately coarse to[illegible]
which will increase the circulation
the skin and thereby tend to prevent
[illegible]
[illegible]
appears to answer best.

At all times the patient shuld be well sup[illegible]
[illegible]
[illegible]
[illegible]
is a fold of linen moistened with Hay's
lotion covered with oil silk, it kee[illegible]
wounds remarkably clean, the [illegible]
[illegible]
[illegible] the summer months.

The following is a table of the Com[illegible]
Comminuted Fractures that [illegible]
[illegible] personal attenti[illegible].

In this paper I have [illegible]
conclusions. I mere[illegible] state the facts and
leave it to the readers to draw their own.

Very respectfully,
Your obedient Servant
W[illegible] H. [illegible]

Name					
White		Buck			
	Middle				
Mourphy					
Bowan					
Eastlack	Middle	Smith		2	
Evans	Upper & middle				
McKennen					

Name				
Turner				
Myers				
Longsar				
Rewdick	Middle	Smith		
Durgee				
Hill				
Dawgee	Lower	"		
Berdick	"			
Sandygrass	"	Buck		
Bowers	Middle	"		
Sullivan	lower third of left thigh			"
Denham				
Howell				
Kelly	Lower	"		
Rideout	Upper			

Thesis.

Fractures of Bones.

W. L. S. Gorgas.

1862-63.

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Fractures

A fracture is a solution of continuity in a bone, or the division of a bone into one or more pieces from violence, differing from a dislocation, which is merely a solution of contiguity.

Some of the bones, forming the framework of the human body are, from the positions they occupy, the functions they perform, from their shape and structure, more liable to be fractured than others; for example the long or cylindrical bones of the extremities, as the humerus, radius, and ulna, the femur, tibia and fibula, than those of the Cranium, the flat bones, or those of the hand and foot, the carpus and tarsus.

Another reason besides those just given why the cylindrical or long bones are more subject to this injury, is on account of their being influenced by large and powerful muscles, which sometimes

occasion their fracture, in the case of persons of advanced age, by the power they exert upon these bones, more or less weakened at this period by the increase of phosphate of lime in their structure.

Fractures are divided into four classes, Simple. Compound. Comminuted and Complicated, and by some authors into other subdivisions according to the direction of the fracture through the bone, as transverse, oblique, and longitudinal fractures.

By a Simple fracture is meant one where the injury is confined to the bone alone, unattended by any injury or an exceedingly slight one to the soft parts in proximity with it.

By a Compound fracture is meant one accompanied with an external wound, caused either by the violence bringing about the fracture, or by the protrusion of the fractured ends of the bone.

By a comminuted fracture is meant one where the bone is broken into small fragments.

By a complicated fracture is meant one in which a joint or artery is involved, or a dislocation combined with the fracture, and some also apply this term to a fracture in which the bone is broken in several places.

There is also a form of fracture called "cornstalk" fracture, where but part of the fibres of the bone are broken, the others bending; the fracture being but partial. Children are subject to such fractures as this from the cartilaginous nature of their bones. The most common fracture, however, in the case of children is the seperation of the bone from its epipyses. If we macerate the bone of a young subject for a certain time, we find the epipyses seperating readily from it.

When a bone is broken transversely the displacement generally is not very great: but when it is broken obliquely the fracture is attended with a shortening of the limb from the superior end of the lower fragment being forced or drawn up under or along the side of the inferior extremity of the upper one.

The causes of fractures may be divided into exciting and predisposing.

The exciting causes are those from mechanical injury either by a "counter stroke", where the blow given is in the direction of the length of the bone, or at some distance from the seat of the injury; or by "direct violence" where the blow given is ~~in the~~ directly against the side of the bone, in the neighbourhood of the fracture; or from the violent contraction of the muscles.

The predisposing causes are from such condition as fragilitas ossium caused by an increase of the

earthy parts of the bones, (the result of old age or original conformity), and also such diseases as Scrofula Syphilis, Rachitis &c.

The prognosis of fractures depends upon their nature and the constitution, age and habits of the patient.

The general treatment in cases of fractures is to bring together as nearly as is possible the fractured ends of the bone and to retain them in their natural position until union takes place. These two objects are accomplished by what are termed Extension and Counter-extension. Extension being the bringing together of the fractured ends of the bone by force applied below the fracture, and Counter-extension the force applied to retain the upper fragment in position while the first force, that of extension is being applied.

It is not necessary that the fractured ends should be brought directly in contact, that is to fit accurately, this can seldom if ever be accomplished.

After the parts are brought together, they are kept in position, and at perfect rest by means of splints and bandages until union takes place.

The inflammation that may arise should be arrested by means of general and local depletion and by narcotics as Opii gr j. combined with Colocynth to prevent constipation.

In the case of a compound fracture the external wound should have applied to it a poultice or water dressing. Complicated fractures sometimes, render amputation necessary.

There are many different forms of apparatus in use for the treatment of fractured limbs, but in this "thesis" our object is to endeavour

to give a description of those forms which we consider, and for which we have the best authority for believing to be, better adapted to the treatment of fractured limbs than any others: not only on account of the successful results which have followed their use in the Infirmary of the University, but also from their simplicity and cheapness, and last but by no means least, from the advantage they possess over other forms in so greatly contributing to the comfort of the patient wearing them, and not obliging him, in the case of fractures of the lower extremities, to lay with almost the half of his body in, what may with some propriety be called a Coffin.

The forms of apparatus of which we purpose giving us a description, though imperfect it may be, can be readily made by the Surgeon himself (as every house contains the materials in the form of pasteboard & Starch,

or newspapers if there is no pasteboard to be had, or even the leaves of books.) or rendered so portable, as in the case of the anterior splint made of unannealed wire, as to be be carried in the pocket.

The indications of fractures are often unsatisfactory, and are sometimes mistaken for dislocations and in consequence treated as such.

The general indications are deformity, unnatural mobility and crepitation.

The deformity consists in the shortening of the injured limb by the action of the muscles on the fractured parts, change in the form of it, and a seperation, inequality or depression at the extremities of the fragments, especially in the case of the superficies bones.

The unnatural mobility of the fractured limb can be ascertained by holding firmly the upper portion and moving the lower, or by the limb giving way when the

patient bears any weight upon it, together with the inability to move it.

The crepitus, a certain indication of a fracture, is made by rubbing the ends of the fragments which are brought together, upon one another

The crepitus cannot in all cases be produced.

The pain and swelling of a limb cannot be relied upon as an indication of a fracture, as they may be caused by other injuries. But in "Druitt's System of Modern Surgery" is found the following concerning pain as an indication of a fracture, "the existence of a persistent local pain in a circumscribed point, when the finger is pressed on the bone, is a very valuable symptom of fracture, and it is in some obscure cases the most important symptom on which the Surgeon is able to found his diagnosis."

The blood which escapes from the ruptured

vessels of the periosteum and medullary membrane and accumulates, is taken up by the absorbents.

Lymph is then poured out between the periosteum and bone by the vessels of the periosteum, which becomes changed, first into "callus" and afterwards by the deposit of calcareous matter into bone.

It sometimes happens that union does not take place between the fractured ends of a bone, owing either to continued motion of the parts: when the lymph, instead of becoming callus, is formed into fibrous bands; or a sinovial membrane similar to that of the joints covers the fractured ends surrounded by a capsular ligament.

The influence of certain diseases such as scrofula, for example, or attacks of fevers or age by exhausting the vital powers, also prevent the fractured ends from uniting.

Simple measures may answer in the first of these cases such as the proper adjustment of the parts and the application of apparatus to keep the limb at perfect rest: but when this fails after one or two months trial, or a sinnious membrane has formed over the fracturing ends producing a false joint it is necessary to excite a degree of irritation, or inflammation, called adhesive inflammation, by rubbing or grinding the fracturing ends upon each other.

This treatment in the case of the synovial covering, will destroy it: but in other cases it is necessary to drill the bone in several places to produce this excitement or stimulate it, or it may be necessary to remove a portion of the ends of each fragment and bring them together and retain them by means of a silver wire passed through holes drilling into the bone.

Other methods are also resorted to, such

as drilling the bone and driving pegs made of ivory into the holes, which pegs are allowed to remain for some weeks, or a seton passed through the limb between the fracturing ends, or through the flesh close to the fracture.

When the failure of the bones to unite is owing to a want of vital power, constitutional treatment should be resorted to such as tonics, stimulants and a nutritive diet.

Exercise of the limb in cases of non-union is also very essential, and after the application of pasteboard splint is applied, is attended with little or no pain.

The use of adhesive plaster in the cases of Compound fractures is objectionable for two reasons. First on account of the resin it contains, the resin stimulating, and strong. because it confines secretions of blood.

Particular Fractures.

Fracture of the Supra Orbital Ridge

This fracture is of rare occurrence and is generally caused by direct violence, as a blow or fall against the sharp corner of a step.

The nature of the injury is readily determined by the deformity resulting, and by the mobility of the parts.

This fracture though a painful one requires but simple treatment, The displaced portion should be adjusted with the thumb and forefinger of the Surgeon, and a bandage carried obliquely around the head covering the injured part to prevent the movements of the orbicularis palpebrarum and elevator palpebrae superioris muscles. No other treatment is necessary.

Fracture of the Ossa Nasi.

These bones from their situation are greatly exposed

to fractures which however do not occur as often as we would suppose from this circumstance.

The injury may be caused by a fall, or blow, or some heavy body, as the wheel of a vehicle, coming in contact with the nose.

The fragments are in the majority of cases depressed, the deformity resulting indicating the nature of the injury.

When the violence is not sufficient to depress these bones, the fracture is indicated by their mobility and crepitus.

Where the violence causing the injury is very great the cribriform plate of the Ethmoid bone may be driven upon the brain and death ensue.

The treatment in case of fracture of the ossa nasi is to elevate the depressed portions by means of a female catheter or a large sized probe, using the thumb and fingers of the left hand to arrange the bones into

their proper position at the same time that the right hand is using the catheter or probe.

There is no necessity for filling the nostrils with lint to keep the bones in position as this may add to the irritation. Where there is excessive hemorrhage a pledget of lint saturated persulph. of iron may be introduced into the nostrils.

To allay the pain the parts may be bathed with a watery solution of Opium, and if great swelling ecchymosis and headache ensue it is necessary to resort to local bloodletting, purgatives, water dressings, and a low diet. Great deformity results from neglected cases of fracture of the ossa nasi.

Fracture of the Superior Maxillary.

These bones are seldom fractured in any other part than the alveolar processes.

When a fracture occurs in the body of the Superior Maxillary it results from great violence, as a gunshot wound for example, but the fracture of the alveolar processes may result from the extraction of a tooth, the roots of which greatly diverge or from direct violence as a blow or fall.

When the fracture is of that part which forms the socket of a single tooth, it is of small account; but when it involves a considerable portion of the alveolus it may cause serious injury. When extensive fracture occurs involving the adjacent bony structure, for example, when the fracture extends to the Zygomatic process and the floor or walls of the Antrum, the form and symmetry of the face is often much marred.

The treatment in cases of fracture of the alveolar processes is to remove all of the detached portion with a pair of bone nippers, and when there is much attachment of the soft parts it should be first dissected

and then removed. If such fractures portions are allowed to remain inflammation and sloughing of the gums will ensue, or necrosis of the bone from the detached portion remaining in contact with living bone.

Subduing the inflammation by the treatment before mentioning, is in the majority of cases all that is necessary in these fractures, as nature by a wise provision appears to repair injuries to the bones of the face more readily than those of the other bones

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Fracture of the Malar Bone & Zygomatic Process may be caused by a blow or fall and are indicated by the deformity resulting from the injury.

It is not well in the majority of cases to attempt to restore the fragments when it is greatly depressed to its natural position. (as) there will always be

more or less deformity according to the extent of the injury. When small fragments are detached they should be removed.

Fracture of the Inferior Maxillary.

The lower jaw notwithstanding its mobility is subject to both simple and compound fracture. The body of the bone may be fractured and the fracture may be perpendicular with the base, oblique or longitudinal, or the condyloid or coronoid or alveolar processes suffer this injury.

The part most liable to fracture is that between the symphisis and ramus, especially where the alveolar process has become absorbed from the loss of a bicuspis or molar tooth. The fracture however frequently occurs near to the symphisis.

This accident is the result of great violence.

either by a direct blow against the side of the jaw, or a blow in the direction of the length or curve of the bone. From the protection which the zygomatic & masseter muscles afford the condyloid and coronoid processes, especially this latter, they are rarely fractured. It is seldom also that both sides of the jaw are fractured.

The soft parts are frequently injured, making the fracture a compound one.

In some cases where the fracture occurs in the neighbourhood of the molar teeth, the fractured extremity of the posterior portion of the bone may protrude externally through the cheek

Fractures of the lower jaw either simple or compound or where both sides are broken, are easily reduced. The indications of these fractures are very evident. When the fracture has

occurred upon the side of the jaw, an examination of the inside of the mouth will at once show the nature of the injury. as the teeth will be found displaced, the symmetry of the arch broken.

Crepitation will be readily noticed upon moving the chin. Crepitation in the vicinity of the Condyle and the protrusion, occasioned by its being dragged forward by the pterygoideus externus muscle, will indicate a fracture of the neck of the condyloid process. In case of fracture of the side of the lower jaw there is also inability to move it, pain & swelling, but these may occur from dislocation also, therefore the crepitus and irregularity of the teeth with the deformity resulting, are the indications most to be relied upon.

The deformity is occasioned principally by the genio-hyo glossus, digastric and genio-hyoid

muscles drawing the anterior portion of the jaw downwards, while the Temporal muscle holds the posterior portion in position.

When the injury is such as to detach the symphisis, this portion of the jaw is drawn down by the muscles extending from the symphisis to the hyoid bone. When the fracture occurs between the ramus and the condyle the indications are often very slight owing to the Circumfaction, and we have to depend upon some of the other symptoms above given, there being little or no crepitation.

When we are able to distinguish a small amount of crepitus we can rely upon a fracture being present, but when there is no crepitus we may endeavour to secure the upper portion of the bone in position by pressure with the fingers and to move the lower, the mobility indicating the nature of the injury.

or we may have to depend upon the great pain and difficulty of moving the jaw.

The treatment in the case of simple fracture of the side of lower jaw is to raise the displaced portion upwards and a little forwards, and pressing in the lower margin or base, bring it on a level with the portion which has been held in place by the temporal muscle. In doing this we must observe that the arch of the teeth is regular, and the line of the anterior portion being on a line with that of the posterior portion we may feel satisfied with the correctness of the reduction. The next operation is to support the jaw in position by having the teeth of the lower antagonize with those of the upper jaw.

When the teeth are very irregular this cannot be readily accomplished and the insertion of a piece of cork or soft wood between them is rendered necessary.

This closing of the mouth will not seriously interfere with the taking of food, even when the jaws are immovably confined, as no teeth antagonize so closely as to bar the entrance of liquid food.

A compress may be applied under and behind the chin to prevent the fractured end of the anterior portion from being drawn downwards and backwards.

A bandage is then applied, of an inch and a half or two inches in width, a little below the prominence of the occipital bone and continued obliquely upward over the parietal bones across the junction of the coronal and sagittal sutures, and then carried downwards over the zygomatic arch under the chin and up the opposite side in same manner to back of head when it is passed obliquely around and parallel to the base of the lower jaw over the chin and the same course continued on the other side until it ends where it began.

This is called the Barton bandage.

When the condyle is fractured it is drawn forward by the external pterygoid muscle, and owing to its being situated so deeply cannot be pressed back.

In this case the lower portion must be forced into contact with it, and be retained in that portion of the bandage passing down over the zygomatic arch must be carried back over the angle of the jaw, instead of between the angle and symphisis as in case of fracture of side of jaw.

When the fracture is of such a nature that the chin is drawn down by the action of the muscles before mentioned, it may with the assistance of the bandage be supported in position by a cap of silver made to fit over the teeth of the detached portion and also over some of the adjoining ones upon both sides of the fractures. Loose teeth may be kept in position by means of silk ligatures uniting them to those that are firm.

When a large portion of the alveolar process is fractured a union may be brought about by firmly and properly securing the parts.

For fractures of Clavicle & Scapula see end of fracture of Humerus

Fractures of Humerus.

The humerus is liable to be fractured at any part of its length either by direct violence or the counter stroke.

The effort made to save oneself when falling by throwing out the arm is perhaps the most common cause of these fractures, the muscles being put upon the stretch, and the violence received in the direction of the length of the bone, on the hand or elbow.

Fracture of Anatomical Neck of Humerus.

This is a rare accident as the head of the bone is protected by the capsular ligament, which is thick & strong, as well as by the Supra Spinatus & Coraco humeral ligaments.

From the deformity being slight and the displacement scarcely perceptible this injury is often mistaken for a dislocation.

But from the fact that the head of the bone after the injury

remains in the glenoid cavity, and no depression is perceptible such as would occur from a dislocation, only a knowledge of the anatomy of the parts & the symptoms belonging to both fractures and dislocations will enable us to judge correctly of the case.

The indications upon which we have to depend are "the impairment of the motions of the joint & crepitus".

Where however the detached head of the bone is driven by the violence into the structure of the shaft, breaking off one or both of the tuberosities the indications are not so obscure as in the former case. The limb will be shortened and a tumour will be perceptible upon the top of the shoulder caused by the projection of the acromian process of the scapula, and crepitus can be made by holding the shoulder firmly and rotating the arm. Such an injury is not readily mistaken for a dislocation from the fact that no tumour exists in the axilla. The tuberosity being fractured renders it easy to produce crepitation in these cases.

Fracture of Surgical Neck of Humerus.

This injury is also liable to be mistaken for a dislocation

The indications of a fracture are first a depression at the upper & external part of the arm, this depression being below the joint of the shoulder: and by pressing the fingers against the neck and rotating the arm the detached portion of the bone will remain stationary, and besides the deformity which is produced by the lower portion being drawn inwards by the action of the Pectoralis Major and Latissimus Dorsi & Teres Major muscles. The deltoid muscle also assists in drawing the lower fragments upwards & to the inside of the upper portion. By drawing the limb downwards and sitting so the hold the fractured portions, will be seen to return to their normal positions. Crepitus can be made by drawing the limb downwards, thereby bringing the fractured portions into their natural position.

Symptoms of Fracture of Anatomical Neck of Humerus.

No bandages or splints are necessary. A wedge shaped bolster, secured in position by narrow bands passing over the upper part of chest and around opposite shoulder, is placed between the arm and body the larger or thicker part of the bolster being up, and a compress in axilla with a sling for the hand and wrist passing to or around the neck.

The elbow should not be supported but allowed to hang down.

Treatment of Fracture of Surgical Neck of Humerus.

The injury is reduced by firmly grasping the shoulder & drawing the arm outwards and downwards.

To retain the fractured portions in position a splint is made of thick pasteboard first moistened in water so as to be readily adapted to the shape of the arm and then coated with starch and wrapped with a bandage. This splint should embrace nearly the half of the outer surface of the arm and extend from the elbow to, and one or more inches over the shoulder.

directly over the deltoid muscle. A bandage is then carried around the affected arm and splint up to and over shoulder, under axilla, passing from this point over the chest and under arm of opposite side. The elbow should not be supported but allowed to hang down, with a sling for hand.

Fracture of middle of Humerus.

The humerus is more liable to fracture in its middle portion than in any other part, and this injury may occur above the insertion of the deltoid muscle or below it, either from direct violence or from the counter stroke.

When the fracture is above the insertion of the deltoid muscle the pectoralis major muscle draws the upper fractured portion inwards and the deltoid muscle draws the lower portion upwards & outwards. When the fracture is transverse and below the insertion of the deltoid but slight displacement occurs the upper fragment being

drawn a little forwards. But when the fracture takes an oblique direction the displacement is greater, the lower fragment being drawn upwards and over the upper portion either to the inside or outside by the biceps and brachialis muscles in front and the Triceps behind.

The indications of these fractures are the prominence of the ends of the fractured portions, the one overlapping the other, the shortening of the limb the result of this overlapping and the mobility and crepitus when the arm is extended and rotated. No great difficulty is met with in determining a fracture of the body of the humerus when the shoulder is firmly grasped with one hand and the elbow with the other and the arm rotated, as the upper fragment will remain at rest while the lower moves: besides, the unnatural movement of the arm cannot escape observation.

The treatment consists in reducing the fracture by seizing the elbow with the right hand and the shoulder

held firmly by the left and drawing the arm downwards

The fractured portions are retained by three splints made from a thin piece of board, the inner one shorter than the two outer ones which last should extend from the elbow to the upper part of shoulder and be narrow enough to leave some space between their edges.

A good splint is made by pasting cloth over a thin pine board and cutting down with a sharp knife from the opposite side through the wood to the cloth, taking care not to cut the cloth. Such a splint as this can be adapted more closely to the surface of the arm than the first described. These wooden splints should have a compress placed upon their inner surface before they are applied to the arm. A roller is then carried around the arm and over the splints to the shoulder and from this point across the chest to opposite side, then over the top of shoulder and under axilla, with a support for wrist.

Care should be taken to remove the corners from the splints.

Another apparatus for the same fracture is a pasteboard splint made in same manner as the one for the fracture of the Surgical neck, but wider, covering about two thirds of the outer surface of arm from elbow to shoulder and the bandage applied as before described, with a sling to support wrist. The bandage used in these cases is the Spica bandage.

Fractures of Inferior Extremity of Humerus.

Fracture of Humerus just above Condyles.

This injury may occur from the same causes as that of the middle of the humerus. Indications are crepitus upon extending the limb, (the extension causing the parts to return to their natural position, great mobility, and deformity which is occasioned by the Biceps, Brachias & Triceps muscles drawing the lower portion upwards and

backwards when the fracture takes an oblique direction from the upper part towards the inner lower part.

When the direction of the fracture is from the upper part towards the outer lower part the deformity is occasioned by the lower portion of the bone being drawn upwards & forwards by the same muscles making a considerable tumour upon the outside of the arm, with a depression immediately below the end of the upper fragment.

The fact that extension of the arm will restore the parts to their natural condition will enable us to judge between this and a dislocation.

Fracture of Condyles of Humerus.

A fracture of the lower part of this bone may extend through the condyles to the joint, or one or even both condyles may be detached from the body of the bone and from the same causes before mentioned, although such injuries as these are not so common as the fracture

of the body of the bone. In a case of the fracture of the Condyles some deformity generally remains after the best of treatment, and it may also be attended with some impairment of the motions of the joint.

These fractures are also liable to be mistaken for a dislocation of the radius and ulna, but the crepitus & the fact that after extending the arm the detached portions return to their unnatural positions when the extension is discontinued, will enable us to judge correctly of the nature of the injury. The treatment consists in reducing the fracture by pressing the left hand into the hollow of the arm, lowering it and at the same time raising the forearm, and applying the angular splint which is made from a sheet of thick pasteboard, first cut from the middle of one of the sides to the centre of the sheet [□] and then bent up into an angular form and the edges trimmed into shape [⌐].

It is then moistened and bent to the shape of the arm which is placed at the proper angle, coated with starch and wrapped with a bandage. The roller is applied to the arm in the same manner as in case of fracture of middle or body of humerus. The bandage ascending the conical portion of the upper and lower extremities, if applied as is the circular bandage, becomes irregular and to obviate this the ends of the two fore fingers of the left hand are pressed upon the upper part of the roller retaining it firmly while the roller is relayed turning the part held in the hand completely over by rotating the right hand. Then carrying it around the limb, each successive turn partially overlaping the other and the same process repeated until the roller reaches a portion of the limb of a different shape.

The angular splint is used in all cases of fracture directly above the condyles, and also for fractures of superior part of radius.

In the case of fractures about the joint the apparatus at the end of five days should be removed for a short time and the limb moved slightly to prevent anchylosis.

Fractures of the Clavicle.

Fractures of these bones are a common occurrence and may be caused by direct violence as a fall or blow, or by the counter stroke where the fall or blow is upon the shoulder or elbow or even hand when the arm is extended. In the majority of cases there is but one fracture but there may be more when the mechanical violence is very great. A fracture of the middle portion nearer to the acromian than to the sternal end is the most common. The indications of a fracture of the Clavicle are a sinking of the shoulder, the inner fragment being drawn slightly upwards by the Sterno-Cleido mastoid muscle, resisted however by the pectoralis major muscle, and the outer fragment drawn downwards, inwards and

forwards; downwards by the deltoid muscle & the weight of the arm and inwards & forwards by the pectoralis minor and subclavian muscles. There will always be crepitus and the patient will be unable to raise the arm above the shoulder. Besides there will be a ~~fracture~~ slight prominence over the fractured end of the inner fragment and a depression between this and the head of the humerus. The end of the sternal portion can be felt by the fingers passed along the clavicle, it being irregular from this portion overlapping the acromian portion.

The head often inclines to the affected side.

Much greater displacement occurs from a fracture of the middle of the clavicle than from fractures of the acromian or sternal portions or ends, the acromian end being held in place by the coraco clavicular ligament and the sternal by the costo clavicular ligaments.

A fracture of the clavicle may be complicated with

wounds of the subclavian artery and brachial plexus of nerves. It is well to inform the patient in the beginning that some deformity will necessarily remain.

The treatment of fracture of the Clavicle consists in raising the arm upwards, outwards and backwards.

By drawing the arms and shoulders backwards the fractured extremities are brought in apposition.

The reduction is an easy operation but to retain the fragments in position is more difficult, as the moment the hold is loosened they will return to their unnatural positions. The first step in this second operation is to place a roller bolster in the axilla long enough to project some little distance front & back that it may be kept in place by the bandage afterwards applied, thus dispensing with the cord or narrow bandage necessary to support the wedge shaped bolster of Desault's apparatus. A simple bandage is then passed

around arm and chest, and after this a triangular bandage from elbow and part of fore arm over shoulder of the opposite side. A sling is constructed for the hand & wrist passing up to or around the neck.

By this means the affected shoulder is braced higher than the sound one, what we wish. The patient after remaining quiet in bed for a week or ten days may be allowed to take exercise by walking about.

The union will be completed in from six to six weeks.

Fractures of Scapula.

The scapula from the manner in which it is connected with the trunk, from its yielding to pressure, and from its being protected by muscles, is rarely fractured.

This injury may be caused by direct violence or by the counter stroke, where the violence is received upon the shoulder. The fracture may be either through the body of the bone, the inferior angle, the neck or the

acromian & Coracoid processes.

The acromian process is the part most liable to be fractured and the injury is generally caused by a fall or blow on the point of the shoulder. The indications of this fracture are a flatness instead of a roundness of the shoulder, from the deltoid muscle drawing the fractured portion downwards and forwards.

This fracture is readily discovered by passing the fingers along the outer portion of the clavicle when the detached portion will be found upon the anterior and upper part of the head of the humerus. When the shoulder is raised the part detached is restored to its proper position.

From the fact that the arm can be moved in any direction it cannot readily be mistaken for a dislocation.

The Coracoid process from its situation is not so liable to be fractured as the acromian. This injury being of rare occurrence. It is caused in the

majority of cases by a blow or fall upon the shoulder

The fractured portion is drawn inwards by the pectoralis minor muscle and downwards by the coraco brachialis. The indications are the mobility of the detached portion and the crepitus detected by passing the finger between the deltoid and pectoralis major muscles, together with the inability to move the arm upwards and forwards. A fracture of the "neck of the Scapula" where the coracoid process and glenoid cavity are detached from the bone is of rare occurrence and is sometimes mistaken for a dislocation.

The same causes may produce this injury as that of the Coracoid process. The indications are the finding of the head of the humerus in the axilla instead of in the glenoid cavity, and crepitus on moving the coracoid process by the fingers pressed between the deltoid and pectoralis major muscles, and the acromian process being unusually

prominent owing to the depression on the shoulder from the head of the humerus being out of position and the deltoid muscle stretched and flattened.

The body of the scapula can only be fractured by direct violence and the indications are crepitus and great pain upon moving the shoulder. When the inferior angle of body is fractured the detached portion is drawn forwards by the serratus anticus major and teres minor muscles. The indications are crepitus and the unnatural position of the detached portion.

The treatment of fractures of the Scapula is very similar to that for fractures of the Clavicle.

For fractures of acromion and coracoid processes a V shaped bolster in axilla, the arm pressed upward outward & backwards, and flexed, the hand being carried to the opposite shoulder. From the danger of inflammation extending to the chest when the body of the scapula is fractured

Constitutional treatment may be necessary as opium. Cathartics, rest, and low diet. When the body of the Scapula is fractured vertically the muscles tend to confine the fractured portions in place and little or no treatment with the exception of a bandage is required.

Fractures of Radius and Ulna.

Fracture of neck of Radius.

The Radius is more liable to fracture than the ulna not only from its being a smaller bone but from its being connected with the bones of the wrist and therefore readily acted on by a counter stroke, such as a fall upon the hand. The fracture of the neck of this bone alone, is of rare occurrence, as in the majority of cases both bones of the forearm are fractured. The indications of a fracture of the neck of the Radius as respects the deformity are obscure owing to the presence and position of the ulna, and the large number of muscles about this part. The patient is unable to pronate or supinate the arm. Extension of the forearm will in most

cases also restore the fragments to their natural position.

The deformity is occasioned by the supinator brevis drawing the detached head of the bone outwards until it is arrested by the orbicularis ligament, while the biceps draws the lower portion forwards and a little upwards, and the pronator radii teres draws it inwards. The treatment consists in extending the forearm so as to bring the fractured portions into their natural position and then flexing it to relax the muscles and applying the angular splint before described, with a sling to support wrist.

Fracture of middle of Radius.

This fracture is more common than that of the ulna for the reasons before given and may result from direct violence and from the counter stroke. The indications are similar to those of middle of humerus with this addition that upon grasping the upper part of the bone firmly with the left hand and pronating and supinating the fore arm with the right hand the upper portion of the bone will be found to

remain at rest while the lower moves. The deformity is occasioned by the biceps drawing the upper portion upwards & by the pronator radii teres drawing it inwards while the pronator quadratus draws the lower portion inwards & downwards.

The treatment consists in flexing the forearm and turning it slightly inwards thus relaying the muscles, and the application of two splints, wider than the arm, cut from a thin board, the one to be applied to the outside of the arm extending from the elbow to the meta carpal articulation and the other to the inside of the arm, this not being so long as the outside one and having a portion cut out to prevent its pressing upon the thumb ▭. The tendency of these splints is to render the forearm flatter and broader, a result desired, as narrow or concave splints crowd the bones together

So also would a bandage applied before the splints are.

The splints should be wrapped with a bandage before they are applied. There is no necessity for carrying the outside

bandage higher up than the elbow.

Fracture of both Radius and Ulna.

A fracture of this nature may be caused by direct violence or by the counter-stroke as from a fall or blow. The indications are readily perceived, such as the mobility of the inferior portion and crepitus together with, in many cases, an angular deformity, also irregularity in tracing the course of the bones with the fingers. The deformity is caused by the biceps and pronator Radii Teres drawing the upper portion of the Radius upwards and inwards, and the brachial drawing the upper portion of the ulna slightly upwards, while the lower portion of both bones are drawn either upwards, backwards or forwards, according to the direction of the fracture by the extensors and flexors, and together by the pronator quadratus muscle. The reduction is made by placing the ~~right~~ left hand in the bend of the arm, with the right grasping the wrist, and making extension.

The same apparatus as for fracture of middle of radius is used.

Fracture of Inferior end of Radius.

This injury is of somewhat rare occurrence owing to the strength of the bone at this part, and is in the majority of cases the result of a counter stroke from a fall upon the hand.

It is difficult to distinguish between this injury and a dislocation of the wrist backwards. The indications are a tumour upon the inner side of the fore arm caused by the projection of the end of the upper portion, and also one upon the outside by the projection of the lower portion of bone, and the moving of the stylois process of the radius when the hand is flexed, and occasionally crepitus, also when extension is made the parts return to their unnatural position.

The deformity is occasioned by the pronator quadratus muscle drawing the upper portion of bone forwards into contact with the inferior end of ulna, while the supinator longus & extensors & flexors of the thumb draw the inferior portion upwards and

backwards behind the end of upper portion.

The treatment consists, after flexing the arm, in making extension from wrist and elbow, while at the same time the outer side of the hand is lowered. The apparatus used consists of two splints similar to those for fracture of middle of this bone, with compresses underneath, and the bandage applied as before described. The splints may extend to the ends of the fingers care being taken that they are somewhat wider than the forearm.

Fracture of Olecranon Process of Ulna.

This injury may result either from direct violence, or the action of the triceps muscle, this last cause being, however, of rare occurrence. The direct violence may be from a fall or blow upon the point of the elbow. When the tumefaction is not great the indications of a fracture are readily perceived, such as the displacement of the detached process upwards leaving a space between this and the

body of the bone, which space is increased when the arm is flexed, and also the power to bend the limb easily but great pain when the attempt is made to straighten it

One of the best modes of determining this fracture is to draw a line from the centre of one condyle to the other, and if the oleranon is found above this line the case is one of fracture. When it is a dislocation the arm cannot be bent.

The deformity is caused by the triceps muscle drawing the process upwards with a depression at the back part of the joint and the prominence of the elbow obliterated.

The treatment consists in extending the arm, this movement relaxes the triceps, when the oleranon is brought down with the fingers. A bandage is then applied around forearm until it reaches the joint around which it is carried until in the figure of 8 form and then up the arm. A splint is then made of thin board, long enough to extend from the middle of forearm to near the shoulder

with a compress in the hollow of the arm and a roller applied over splint. At the end of three weeks the apparatus should be removed for a short time, and the arm slightly moved. In the majority of cases the union resulting is ligamentous. It is very necessary that the arm should be kept at perfect rest during the first stage of the treatment, as the slightest action of the biceps will displace the fragments.

Fracture of Coronoid process of Ulna.

This injury rarely occurs owing to the position of the process and the fact that other points are prominent bear the force of a fall or blow. In the majority of cases this fracture is caused by the action of the brachialis muscle.

The indications are the dislocation of the ulna and the inability of the patient to bend the arm. The dislocation in this injury is backwards. By making traction upon forearm and at same time flexing it the fractured process returns to its natural position.

The apparatus used to retain it in this position is the angular splint, before described with a compress in hollow of arm.

Fracture of Inferior End of Ulna.

The ulna being protected by its position and not having the same connection with the carpus bones as the radius is less subject to fracture. The most common cause is direct violence, and the part where the fracture is most likely to occur is a little below the middle of the bone, it being weakest at this point. The indications are crepitus and pain on attempting to pronate or supinate the arm, irregularity found by tracing course of bone with fingers, with a depression on the outer surface of the fore arm at the seat of the fracture, and a tumour upon the inside, & the hand also has a tendency to turn in. The deformity is caused by the pronator quadratus drawing the lower fractured portion outwards in the direction of the radius, while the upper portion remains in its natural position.

The treatment consists in reducing the fracture

by extension from wrist and forearm. The arm then flexed and two splints applied, one of an angular form made from a thin board, extending from elbow to ends of fingers and the other a shorter one for the inside of the fore arm cut out to escape the thumb These splints should be of a width sufficient to prevent the bandage from pressing the fore arm into a round shape and crowding the bones together.

A compress is placed between fore arm and splint.

Fracture of Carpus Bones.

A fracture of these bones rarely occurs from their being so compact and so strongly held together by the ligaments.

It is therefore great violence that causes these injuries; so great indeed that the bones are in the majority of cases crushed and the parts about them considerably lacerated.

Disastrous effects from inflammation are likely to result from these injuries such as anchylosis, or constitutional symptoms that require amputation in many cases. There is no

particular rule for the treatment of their fractures, and they are often mistaken for dislocations

Fracture of Meta-Carpal Bones.

These bones are often fractured, and where but one is broken it is that of the ring finger in the majority of cases.

It is generally the result of direct violence and the nature of the injury is readily perceived the fracture causing an angular deformity.

In the treatment of these fractures there is no necessity for applying the common splint, but one should be used made by placing the hand flat, with the palm down upon a piece of thin board, and cutting out the board around the hand. A compress is placed between splint and hand and a bandage applied around both.

Fractures of the Vertebrae.

These injuries are generally caused by a the counter-stroke, as a fall or blow upon the head or shoulders, or by direct violence. From the manner, however, in which

The vertebrae are protected by the ligaments and muscles these accidents are rare especially those of the dorsal and lumbar vertebrae. The cervical vertebrae are the most liable to fracture from their having more motion than the dorsal or lumbar and also from their position, and these fractures are generally fatal instantaneously so when the fracture occurs above the fourth or fifth cervical vertebrae from the injury to the phrenic nerve causing paralysis of the diaphragm. When the origin of the phrenic nerve is above the seat of the fracture and not involved in it, the action of respiration is carried on by the diaphragm only and the peristaltic motion of the coats of the stomach is interrupted and tympanites ensues resulting in death.

When the atlas is fractured death occurs from the processus dentatus being pressed outside the transverse ligament against or into the spine. The fracture of the atlas is the result of a crushing force received upon the condyles of

this bone, it being a light ring, and the direction of the force being outwards, bursts this ring with the results before mentioned.

After fractures of the lower cervical vertebrae, below the 4th or 5th, or the upper dorsal the patient may live from six to eight days and be able to converse &c, but death is certain to result.

When the middle or lower dorsal vertebrae are fractured, the lower extremities become paralized, and constipation and lymphatic occur, the injury resulting in death after two or three weeks.

The lumbar vertebrae are seldom fractured owing to their strength and position, But when this injury does occur the lower extremities are completely paralized, this condition being attended by the involuntary discharge of feces from the loss of power in the sphincter ani muscle, while the urine is retained and in a few days becomes abundant, owing to the paralized condition of the muscular coat of the bladder, and death ensues in from four to five weeks. When the spinous processes alone are broken off, or the cervical vertebrae twisted partially around,

or the lower vertebrae are displaced slightly backwards, recovery may take place with permanent deformity, and in some rare cases recovery has taken place after the fracture of the lower dorsal or lumbar vertebrae, but with paralysis of the lower extremities.

The treatment of fracture of the vertebrae consists in placing the patient upon a hair matrass having a board bottom, on account of its being firmer and not yielding so much to as a sacking bottom. The patient should lie upon the stomach for three reasons, 1st Because the injured part is more easy of access in this position. 2nd Because the patient can at times raise himself a little on his elbows, which is a relief. 3rd Because this position prevents bed sores.

Perfect rest is necessary and if inflammation ensues local bloodletting by means of cups should be resorted to if the pulse is strong.

Pain may be relieved by bathing the injured part with a watery solution of Opium. The urine should be drawn off by means of a catheter and the bowels kept open by cathartics,

and the strength supported by tonics &c.

Fractures of the Ribs.

These fractures are of frequent occurrence, yet the ribs are not so easily broken as one would suppose.

It seldom happens that one alone is fractured, but generally two. This injury may result from direct violence or by the counter stroke. When from direct violence the ends of the fractured portions project inwards, but the muscles tend to draw them out and will do so in a few days.

When it results from a counter stroke the ends project outwards.

Death is sometimes produced by the sharp ends penetrating the pleura and in some cases even the lungs. In making an examination for fractures of the ribs press the fingers upon the seat of the injury to try to detect the sharp ends and direct the patient to inhale air, when upon applying the ear to chest crepitus or a snapping may be heard. Snapping may occur when the periosteum gives way. The treatment consists in

letting the ribs alone. When there is inflammation and pain the injured part should be bathed with the watery solution of opium.

The patient should lie upon his back in bed, and perfect rest is necessary. When inflammation of the chest results vene-section and opiates are the means resorted to. To diminish the motion of the ribs during the treatment a broad roller or towel passed around chest to right, that respiration is performed by the diaphragm in a great measure, is recommended.

Fractures of the Pelvis.

Fractures of the Pelvis seldom occur owing to the great strength of the bones composing it, and it is only by a crushing force in the majority of cases that it is accomplished.

The course of the fracture is generally from the great sacro-sciatic notch up through the nearest part of the neck or crest of the ilium, the neck thus situated being the weakest part of the bone. In some cases the os innominatum is fractured together with the walls of the acetabulum, and the

head of the femur forced into the pelvic cavity, or the fracture may be through the body of the pubes and ischium, or but a small portion of the os-innominatum be detached.

Fractures of the pelvis give rise to very serious results as they are generally attended by lesions of the parts within the pelvic cavity, such as inflammation collections of pus, paralysis of bladder making the use of a catheter necessary, and when the fracture is through the ischium and pubes the urethra may be lacerated and the urine extravasated into the perineum. The indication of a fracture of the pelvis are inability to move the thigh without great pain and an interruption of continuity when the course of the bones forming the os-innominatum, especially the crest of the ilium, is traced with the fingers. When the walls of the acetabulum are fractured by the head of the femur being driven through, there will be very little shortening of limb, and the head of the femur will be firmly fixed, but the position of

the foot will be natural. The limb will remain short.

Such cases as these are very liable to be mistaken for dislocation of the head of the femur, but the presence of crepitus on moving the thigh will enable us to judge correctly of the nature of the injury. The treatment, when but a small portion is detached, is to flex the thigh on pelvis and keep the patient perfectly quiet. When the fracture extends from the sacro sciatic notch up through the crest of the ilium a towel or heavy bandage may be passed around the pelvis & great trochanter, but no around the abdomen, or two wedge shaped bolsters may be placed on the sides of the hips to prevent the parts from expanding, and to prevent bed sores, and a bed used with an opening for the convenience of a bed pan. When the fracture is through the body of the ischium and pubes the patient should be kept perfectly quiet and the use of the catheter may be necessary. When the head of the femur is driven through the walls of the acetabulum

a short bandage should be passed around the pelvis and another around the thigh and traction made from this latter. A cushion is then placed between the thighs and perfect rest together with the treatment necessary for any unfavourable symptoms that may arise.

Fracture of the Os Coccygis.

These injuries are more liable to old than to young from anchylosis of the bones composing the Coccygis taking place in old age. They are generally caused by direct violence as a kick or fall. The indications are pain on rising and sitting and free evacuations. The treatment is "rest".

Fractures of the Femur.

The femur from its length, position, curvature and the powerful muscles about it is very subject to fractures, and is generally broken by a combination of the counter shock and direct violence. The fractures are perhaps the most important the Surgeon is called upon to treat from their liability

to result in permanent deformity and even loss of life, and from the fact that before the invention of the Anterior Splint by Dr. A. B. Smith, the many failures attending their treatment were sources of great mortification to the Surgeon and injury to his reputation. Since this Splint has been used the results are in the highest degree satisfactory to both Surgeon and patient.

Fracture of Head of Femur within Capsular Ligament.

The fracture of the head of femur is more common to old persons than to young from the change in the constituents of the bones, and from the head of the femur in old age being bent almost at a right angle with the body of the bone.

These injuries are more liable to occur to old women as the axis not only assumes more of a rectangular position, but the neck of the bone is longer and more slender in females than in males. But what is lost in this respect is gained in regard to dislocations, as they are not

so liable to occur when the bone (head of) is bent at nearly a right angle with its shaft. These injuries are sometimes mistaken for dislocations and treated accordingly.

To prevent such mistakes we should first take into consideration the cause of the injury and then make a careful examination of the limb. The indications of this fracture are as follows. The patient is unable to rise and great pain is felt in upper part of thigh & the foot is turned outwards, the hip loses its roundness, and after the lapse of a few hours the limb is shortened. Neither the shortening or the eversion are to be considered conclusive evidence of a fracture, as the muscles may be shortened by the patient in bed, but both limbs can be measured by a piece of tape from the anterior superior spinous process of ileum to malleolus, and even this is not in all cases conclusive. But if crepitus is produced we may rely upon its being a fracture.

The crepitus may be made by gently drawing down

the limb and rotating it slightly with the aid of an assistant and besides crepitus, when the hand is placed upon the great trochanter the head of the bone will be found to move in the great arc of a circle if the injury is a dislocation, but if a fracture it moves only on its own axis, a simple rotation.

Besides in no case of dislocation of the hip will the toe turn outwards. The limb should be handled slightly so as not to injure the periosteum. The turning out of the foot is caused by the action of the rotator muscles and also by the glutei, psoas and iliacus, adductors, and the pectineus muscles, while the shortening is caused by the action of the glutei and rectus muscles in front and by the biceps, semi-tendinosus and semi-membranosus behind.

Sir Astley Cooper contended that no union takes place when the head of the femur is fractured within the capsular ligament but Dr. J. K. Smith thinks that bony union may take place. The great difficulty in these cases is the

want of vascular connection, as the head of the femur is loose in the capsular cavity, and the parts are bathed in and surrounded by sinovial fluid. But the ligamentum teres or round ligament has vascularity and its vessels increase in size and nourish the head of the bone so that it scarcely ever undergoes necrosis, as do many of the other bones. Sinnivial fluid will not prevent union and cures are shown by the patients walking well after such injuries with no shortness of limb and no false joint. So that as reunion may take place we should attempt the treatment.

The fracture is reduced by extension and counter extension which are made by thick bands one between the thigh and genital organs, and the other around the ankle and instep upon which traction is made. The limb is supported by cushions and kept extended.

Fracture of Superior Part of Femur.

This accident is of more frequent occurrence than that of

the head of the femur, and may result from the countre-
-stroke or from direct violence. The deformity is considerable
and there is no difficulty in judging correctly of their nature.

The deformity is occasioned by the psoas magnus muscle
drawing the upper fractured portion ~~upwards~~ forwards almost
at right angles with the pelvis, and the gluteï and external
rotator muscles drawing it outwards, while the end of the
lower portion is pushed upwards and to the inside of the
upper portion by the rectus, biceps, semi tendinosus and
semi-membranosus muscles and inwards by the pectineus
and adductor muscles, thereby shortening the limb.

In treating these cases the object is to adjust the
parts by bringing the upper portion downwards and
the lower portion outwards and downwards, which may
be done by continued extension or as some recommend
by placing the thigh on a double inclined plane, thus
relaxing the muscles.

Fracture of the Body of Femur.

The middle portion of this bone is more liable to this injury than any other part, especially in young patients, from its exposed position and from the action of the muscles upon it. This accident may be caused by the counter-stroke or by direct violence such as a fall or blow.

The indications are the same as in the case of fracture of the superior part, considerable bulging out of the thigh externally, owing to the action of the abductor muscles drawing the fractured ends outwards, while the foot also has a tendency outwards. When the leg is brought parallel with the sound one the deformity is increased so that the apparatus used, to be hereafter described, should allow the limb to swing a little outwards, as the deformity about the thigh will then be diminished. This is accomplished by the anterior splint. On account of the body of muscles at the seat of the fracture it is impossible to bring the

ends of the fragments do close together, and there is always left a degree of shortness which is unavoidable.

When "Desaults" apparatus is used the leg is brought straight with the sound one increasing the deformity.

Fracture of Inferior Part of Femur.

This accident is often attended with serious consequences as there is considerable deformity from the fractured portion being so greatly displaced. The two heads of the Gastrocnemius the Soleus and plantaris muscles draw the lower portion of bone outwards and backwards when the limb is straightened, and this portion can be felt in the popliteal space.

It is also drawn upwards by the posterior femoral and rectus muscles. The upper portion is drawn inwards by the pectineus and adductor muscles and slightly forwards by the psoas magnus and iliacus muscles. These fractures are often compound ones from the fractured ends of the upper portion of bone lacerating the rectus muscle and integument, and

they may under amputation necessary or events indeed.

From the tendency of the two heads of the gastrocnemius to draw the short portion of the bone outward and backward, the limb should be kept in a flexed position upon the thigh, with the cord of the tendon of Achilles oblique. When Potts' apparatus is used the parts cannot remain in their natural position as any movement of the patient displaces them, and from the tendency to slip down in the bed the fragments are constantly crowding upon each other. Desault's apparatus in this case also keeps the limbs parallel and extended.

Fracture of Condyles of Femur.

One or both of the condyles of femur may be fractured and some speak of the fracture of the internal one as being the most common, but Prof. Smith has met with more cases of fracture of the external than of the internal. This fracture may be known by the great mobility of the parts and a sinking or depression above the patella when the leg is extended upon the bed.

There is a great tendency of the limb to turn outwards, with crepitus, and when the fracture extends into the joint there is great swelling of the joint. When both condyles are fractured, besides crepitus, there is a shortening of the limb, and upon pressure on the patella the breadth of the knee is increased.

Considerable deformity results from these fractures and they cannot be completely remedied, the patient remaining afterwards more or less crooked. The treatment consists in supporting the limb in an angular position in the anterior splint.

At the end of two weeks it should be slightly flexed and the angle changed. A gentle permanent extension can be made by having the chord of the anterior splint hung obliquely.

Fracture of Patella.

The patella may be fractured transversely or vertically or crushed and the fracture be compound. When compound fractures may prove fatal from the great degree of constitutional irritation they give rise to. Fractures of the patella may occur

from direct violence as a fall, or by the contraction of the rectus muscle when the attempt is made to avoid a fall and the leg at the time is bent. And this is the most common cause.

When the direction of the fracture is transverse the rectus muscle draws the upper fragment up the thigh, leaving a depression at the knee. and the patient is unable to stand, while the ligamentum patella retains the lower fragment in position.

When the direction of the fracture is vertical the fractured portions remain in their natural position. but if pressure is made from the centre of the patella outwards with the fingers the fragments will seperate. On account of the synovial fluid bony union rarely takes place, but this is of no consequence as the function of the joint is restored if the fragments unite by cartilage.

In the treatment of fractures of the patella no better apparatus than the anterior splint can be used, especially where there is difficulty in keeping the fragments together.

The leg is placed straight, not flexed, with a compress

directly over patella and one also below and another above this bone under the wire of the splint, and the limb resting that the thigh, from the obliquity of the cord, is flexed to a degree upon the pelvis and the leg extended upon the thigh.

At the end of ten days or two weeks the limb should be flexed slightly, and in from four to five weeks the apparatus can be removed.

The Anterior Splint.

For the treatment of fractures of the leg no better apparatus can be used than the Anterior splint.

Its application not only restores the limb to as natural a condition as is possible, but is of great comfort to the patient who is not obliged to be confined in one position for months and then rise with a greatly deformed limb as is the case with the majority of the other forms of apparatus in use; take Physics for example where in almost every case there is convexity of the thigh outwards.

The anterior splint, on the other hand, allows the patient to change his position in bed without pain or injury. It also obviates the irritation that follows the use of nearly all if not all the other forms, by the limb resting on two or three points. By making obliquity of the cord a gentle traction is kept up which is perfectly uniform. In the use of the anterior splint the limb is first washed with soap and water and the splint covered with a roller, is adjusted to the limb by several short bandages passing around splint and leg, with a compress at the instep to prevent the splint from pressing on the foot. The anterior splint adapted to the limb extends for some distance on the pelvis, and Prof. Smith thinks that a permanent band attached obliquely to the upper part of the splint passing around the hip, across the pelvis would be a good improvement for the purpose of securing this end. A bandage is then

applied over splint and limb from the toes to the pelvis, across which it passes several times and is secured.

The limb is then hung by a cord, with a pulley attached to a hook in the ceiling. In this apparatus the limb appears at first sight longer than the sound one, but this is found not to be the case upon measuring it with a piece of tape.

At the end of about five weeks the anterior splint may be removed and the starched concave pasteboard splint applied, which is made of thick pasteboard, moistened after being cut to shape, then coated with starch, covered with a bandage and adapted to outside of limb. A little starch should be rubbed over the surface of the outside bandage to keep the folds from slipping, but not so much as to make an immovable apparatus. This splint should extend from the heel (bending over the sole) up on the pelvis nearly on a line with the umbilicus. A shorter splint made in the same manner is applied to the inside surface of the limb.

Care should be taken not to apply an inside bandage before the swelling takes place, in fact no such bandage is needed as a compress may be placed along the inner side of each splint of unequal thickness according to surface of limb.

For children from four to ten years of age it is scarcely ever necessary to use any other apparatus than this padded board splint for fractures of the thigh. A little calcined plaster mixed with the starch will cause it to harden more rapidly. For adults, however, the Anterior splint should be used.

Fracture of the Fibula.

The fibula being the smaller bone is more frequently fractured than the tibia, this latter often remaining intact when the former suffers. This injury may be caused by the counter-stroke or by direct violence but most commonly by the counter-stroke. The most usual part is a few inches from the inferior end. It frequently happens in this injury that

the tibia is displaced from its articulation with the astragalus, the internal lateral ligament being ruptured and the inner malleolus projects inwards beneath the integuments, so that there is both a fracture and a dislocation. It frequently happens also that both the fibula and tibia are broken, and in this injury the foot is turned outward by the acting of the peroneus longus muscle, the inner border resting upon the floor, and the heel drawn up by the gastrocnemius muscle.

The end of the upper fractured portion is turned inwards, the annular ligament is ruptured and there is a distorted appearance of the ankle with a tumour on the inside of the external malleolus. If the patient is placed on a bed or chair and the thigh held firmly by an assistant and the foot is worked slightly, crepitus may sometimes be produced but not always. This fracture may be reduced by flexing the leg at right angles with the thigh which relaxes the muscles, and by making extension and counter extension from the

the knee and foot. The foot should be turned a little more inward than is natural and the starched pasteboard apparatus applied.

Fracture of Superior part of Tibia

When the tibia is fractured ~~anteriorly~~ in the upper part there will be an angular projection anteriorly.

The end of the upper fragment has a tendency to fly out, while the lower is drawn backwards by the soleus muscle. The nature of the injury may often be determined by the irregularity found on the surface by tracing the course of the bone with the fingers. The treatment is the same as that for fracture of the patella.

In some cases the starched pasteboard splint may be used instead of the anterior splint.

Fracture of Body of Tibia.

This fracture is in some cases not readily recognized as the leg cannot be bent on account of the fibula escaping

uninjured; but by tracing the course of the bone and the discovery of irregularity of its surface the nature of the injury is apparent. But when no irregularity of surface is discovered a fracture may be determined by alternately placing the hand under the fibula and heel.

When the fracture is oblique from above downwards and forwards the lower fragment is drawn backwards and upwards by the large muscles of the calf of the leg and the end of the upper portion projects inwards, and not unfrequently a compound fracture is produced by this end being forced through the integument. Where the direction of the fracture is from above inwards and downwards the lower portion of the bone is drawn forwards overlapping the end of the upper portion. By flexing the leg and making extension and counter extension from the knee and ankle the fracture is readily reduced.

The limb may be placed either in the Anterior Splint or Starched pasteboard apparatus

Fracture of Both Bones of Leg.

Both the tibia and fibula are not unfrequently fractured and generally in the inferior portions where the middle third joins the lower third. The fragments project forwards and the fracture is often a compound one. In some cases the fractured ends project several inches, rendering it necessary at times to cut off a portion before the fracture can be reduced. In other cases there may be a simple pricking of the skin which may be converted into a compound fracture. The characteristic deformity is an angular one in front. The difficulty in treating a fracture of this kind is from the weight of the foot and the action of the muscles of the calf of the leg such as the gastrocnemius and soleus. The limb should not be placed straight but semi-flexed, and the foot which will sink, should be supported: for if the heel alone is pressed upon it will ulcerate, that is if the weight of the leg is born by it.

When the injury first occurs and before it is possible to have the anterior or starched pasteboard splints applied, adhesive plaster should be used around the foot, and common splints applied to keep it in position.

A cap is made for the heel by passing the bandage in the figure of 8 form crossing it over the instep.

The bandage should be applied very loosely around the splint directly over the seat of the fracture and carried up over part of the thigh and the limb placed upon a pillow creased in the centre with splints upon each side

The anterior or starched pasteboard splint should be applied as soon as possible.

1863

An

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on

Intermittent Fever.

Submitted to the examination

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and

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of the

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For the degree

of

Doctor of Medicine.

By

John F. Cheu

of

Maryland.

Intermittent fever derives its name from the fact of the paroxysms of fever returning at regular intervals, and during these intervals or intermissions the patient being in almost perfect health.

It exists only in warm and temperate climates; it seldom occurs further north than sixty degrees, and in tropical latitudes it gives way to remittent and other fevers.

It often disappears in regions where it was very

prevalent, without there being any appreciable reason, and again returns in the same unaccountable manner.

Intermittent fever is divided into types according to the length of the interval, or the time from the commencement of one paroxysm to the beginning of another.

The quotidian, tertian and quartan types are those most frequently met with, though many others are spoken of, as recurring every fifth, sixth or seventh day, or even once a month, or once a yearly.

These types are sometimes doubled, thus in double tertian there will be an attack every day, but differing from each other so markedly and each alternate paroxysm corresponding so exactly as to show plainly its nature, or there may be two paroxysms every third day, those of the morning corresponding, and differing from those of the evening.

Malaria is the only cause of this disease: of its nature very little is known.

We know that it is generated by marshes which are exposed to an high degree of temperature for several months: and it is supposed to depend upon vegetable decomposition, the fact of its being more abundant in the autumn than in other seasons is an additional proof of this supposition: but it is also known to exist where there are no marshes and very little vegetation, so that vegetable decomposition can not be the only source.

From experience it has

been ascertained to be a heavy gas; that it can not be transmitted any distance from its source, and that water prevents its further progress; forests also impede its advance, either by absorbing it, or by entangling it in their foliage.

Unacclimated persons are more susceptible to its influence than others, and especially those from a more northern climate; the terrible ravages made by malaria in the invading armies of the north, was a good exemplification

of this fact.
Malarica attacks, with more
vigor and certainty, persons
of a weak anemic constitu-
tion, than others, because of
their weakened power of resis
-tance. It may lie dormant
in the system for a long
time after a person has been
exposed, and then be made
to manifest itself by its in-
-fluence on other diseases, or
by producing intermittent or
remittent fevers when the
constitution has been weakened.
The sting of a wasp has been
known to bring on one of its diseases.

A paroxysm of intermittent fever is divided into three stages, the cold, hot and sweating stage.

Before the commencement of a paroxysm there are generally some premonitory symptoms. For several hours before the chill, the patient feels dull and weary, and there is an unpleasant aching sen-sation in his joints and limbs. He stretches his limbs and yawns, and feels that it is impossible to open his mouth wide.

Then as the cold stage comes

on he feels cold and chilly, his lips and nails become livid, his skin is shrunken, cold and rough. Tremors then commence to pass over the body, and increase in frequency until the chill is fully formed, the tremor is sometimes so violent that the bedstead, on which the patient lies, is shaken. Frequently there is nausea and vomiting, first of the contents of the stomach then of bile. In plethoric persons symptoms of apoplexy sometimes supervene, and in every case there is

some degree of head-ache.
The pulse is generally slow; but sometimes frequent.
The average duration of a chill is about an hour: but it may be only of a few minutes duration, or may last for three or four hours.

The fever, in this disease, comes on gradually. First flushes of heat pass over the extremities, followed by cold, these increase in frequency and duration until the surface of the whole body becomes comfortably warm.
This sensation of comfort is of very short duration, the warmth

of the surface rapidly increases until, in some cases, it amounts to upwards of an hundred degrees. The face becomes flushed and burning. The eyes sparkle. The secretions are all diminished. the skin and tongue are dry, and the patient suffers from thirst. The head-ache of this stage is throbbing and often attended with delirium. The fever may continue for twenty hours; but, in moderate paroxysms, its duration is about four hours.

The third or sweating stage is merely what naturally follows

When the fever begins to subside, the burning sensation first gives way, then as the heat of the surface decreases the skin gradually becomes moistened, and perspiration comes on, sometimes very profusely.

As the sweating advances a feeling of relief comes on, and soon the patient falls asleep, when he awakes all symptoms of fever have gone, and the only visible effect of the paroxysm is a feeling of general languor.

A paroxysm of intermittent fever does not always restrict itself

to this regular form.
Either of the stages may be
irregular or entirely wanting,
a paroxysm is often ushered
in by nausea and vomiting,
without any of the other symptoms
of a chill, or there may be
only a dumb chill, that is
a chill with all its symptoms
of a latent character, being
about the same as the fore-
monitory symptoms of a regular
attack.
The effects of intermittent fever
on the abdominal viscera
are various. The most common
is the enlargement of the spleen,

during the chill, when all the viscera are engorged with blood, the spleen, receiving more than its share, to relieve the other organs, becomes congested and enlarged, and the blood becomes coagulated in it, so that when the other viscera are relieved by the supervention of fever, the spleen remains permanently enlarged, and by the repetition of chills for a long time, the spleen has been enlarged to an enormous degree.

Besides this disorder of the spleen, the stomach, liver

and intestines are in almost every case, left inflamed or with their functions disordered. The kidneys too are frequently disordered, sometimes to such an extent as to bring on Bright's disease.

The prognosis of intermittent fever is always favourable.

It very seldom causes death. a protracted chill may end fatally by congestion of the brain or by rupturing the spleen; but this is a very rare occurrence.

It is often the cause of fatal diseases; but then intermittent

fever is the remote not the immediate cause of death.

The most frequent terminations of this disease are in perfect health or in remittent fever, and the prognosis will be varied by the tendency to end in one or the other of these ways.

The type also will modify the prognosis; the quotidian is most severe, next the tertian, and the quartan type is most lenient; but proverbially difficult to cure.

The diagnosis of this disease is very simple.

The only diseases with which it can be confounded are remittent and hectic fevers. From the former it may be known by the entire subsidence of fever during the intermission, while in remittent fever the patient is never entirely free from fever. It differs from hectic fever, in the non-occurrence of night-sweats, in not having its peculiar flush, and in the time of recurrence; hectic fever coming on at night, whereas intermittent fever comes on in the morning & afternoon

It is difficult to diagnose the type before there have been two paroxysms; yet it can be done with a great deal of accuracy.

We know that the quotidian type generally makes its onset early in the morning, and that its chill is more severe than in other types, and we know that the tertian comes on about noon, while the quartan appears in the afternoon; by observing these peculiarities the type can generally be foredicted.

The treatment of intermittent fever

may be divided into, first the prophylactick, second during paroxysm, and third during intermission.

In malarious districts the preventive means to be used are of more importance, perhaps, than any other. It is generally very easy to keep off the disease, if proper precautions are followed.

Persons should not expose themselves to night-air, and should not go out in the morning before breakfasting.

It is a common practice to take alcoholic drinks before exposure

in the morning, it is a very efficacious prophylactick; but is itself dangerous and apt to break down the system by its habitual use. Strong coffee is equally efficacious as a preventive, and much safer as an habitual stimulus.

Sleeping in an upper room, and having a fire kindled in it at night, are very useful precautions.

The best and most simple of prophylactick means, is to keep the system slightly under the influence of quinine.

by taking three or four grains every morning; travelers in Africa, where Malaria is most abundant and most deadly in its influence, have protected themselves by following this precaution.

A paroxysm may be kept off when first felt to be coming on; tieing a ligature tightly around the thigh, a large dose of brandy or laudanum, are means used for this purpose.

Medicinal treatment is seldom required in the paroxysm.

The patient should be kept

in bed, and each stage watched and symptoms treated when necessary. In the cold stage the patient should be kept in a warm bed, and warm drinks given him; a dose of twenty or thirty drops of laudanum given at the beginning of the attack will often mitigate both chill and fever. The hot air bath may be used if the chill be severe.

Symptoms of apoplexy require bleeding, and it is necessary to bleed when there is much enlargement of the splen and danger of its rupture.

The treatment of the fever is as simple as that of the chill.

The patient should be placed in a cool bed and lightly covered, cold should be applied to his head, and cool acidulous drinks given him; if there is much vascular excitement a very small dose of tartar emetic may be given in an effervescing draught. The free use of ice is the most useful and pleasant means that can be employed.

If the sweating in the third stage should be too profuse

it may be checked by wiping the surface perfectly dry.

The treatment of the intermission is by far the most important.

If the paroxysm has not been very severe and has occurred in the middle of the day, it will be safe to put off the use of quinine until the next day.

The patient should take a purgative dose of mercury at night, and in the morning commence the use of Quinine in three or five grain doses every two hours, until

its effect is felt by tinnitus aurium; from ten to fifteen grains will generally be sufficient to produce this effect.

If the patient does not have another paroxysm, the Quinine may be stopped after four or five days.

If, from the severity of the chill and time of its occurrence, or from previous attacks, we have reason to believe that the patient is laboring under the Quotidian type, it will be unsafe to postpone the use of Quinine until the patient has been purged.

He must, as soon as the fever has subsided, commence the use of Quinine, and take it so that from 12 to 20 grs will be taken before the time for the next paroxysm.

By such treatment the disease can generally be checked after one or two paroxysms, unless it has run on for a long time and obtained a firm hold upon the patients system. In such case we frequently find that Quinine is entirely inadequate to break off the morbid

action; but we should give it a fair trial before resorting to other and more dangerous remedies.
Often it fails to have its usual good effect on account of its not being taken into the system, because of the torpidity of the stomach, in such cases it may be made efficient by adding red pepper to each dose of quinine.

The remedy next in importance to quinine in its febrifuge power, is arsenic.

In some respects it has

advantages over quinine; it is cheaper, and is supposed to cure more efficiently. It sometimes effects a cure where quinine has failed; and quinine has cured where arsenic has failed, therefore the one should be resorted to when the other has failed, at the same ~~time~~ time protecting the patient from the continued influence of marsh miasmata.

The two remedies mentioned are the most powerful and most commonly used;

but beyond these there are several of a great deal of efficacy. Sulphate of cinchonia, another of the active principles of cinchona bark, is coming into general use, and seems to be of as much value as quinine only requiring to be given in larger doses. Salicin, the active principle of willow bark, is another remedy used in this disease; but is of not much value.

The decoction and tincture of wild-cherry bark are much used both as preventives and cures.

Nature seems to have placed the cause of this disease and its remedy side by side.

The cinchona tree grows in the most malarious districts of Peru, while with us, there is not a miasmatic region whose branches do not abound with Gillord and wild-cherry trees.

The loss of Quinine would not be irremediable; its substitutes would not be in as good a form for administration, and would be

less prompt in accomplish-
-ing a cure.

The diseases consequent
upon intermittent fever
must be treated without
regard to their cause.

A person who has been
laboring under intermittent
fever for any length of
time, is left in a weakened
and anaemic condition, with
the abdominal organs all
acting sluggishly. If he is
left without further treat-
ment, the disorders of the
viscera, which are now slight,
will soon assume a grave

and serious character, which may lead to incontrollable and fatal diseases.

The best agents to correct this condition are the simple tonics and the preparations of iron and quinine; perhaps the very best is Huxham's tincture of bark.

These agents should be used until the patient has returned to his former standard of health, or as long as they continue to prove beneficial.

1863

An

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on

Diphtheria,

Submitted to the Examination

of

The Provost, Regents and

Faculty of Physic,

of the

University of Maryland,

for the

Degree of Doctor of Medicine,

by

Thomas O. Kinzer.

of

Maryland.

Diphtheria

I propose, in this essay, to treat of Diphtheria as I saw it prevail in the practice of my Brother, Dr. S. G. Kinzer; in Southern Pennsylvania, during the last three years.

What is Diphtheria? It is a form of Angina, usually prevailing epidemically, attended by more or less fever, of the asthenic type, and whose diagnostic mark, par excellence, is a deposit of false membrane, first appearing on the tonsils. It generally

shows itself in a single patch, on one or both Tonsils, and which may spread over the mucous membrane of the mouth, Nasal passages, pharynx, oesophagus, larynx, trachea, and bronchial tubes, to their last ramifications. It attacks, in preference, those of a Scrofulous diathesis, and ill conditioned Subjects generally, and has a great partiality for children who are badly fed, and who are crowded together in illy ventilated houses. When it first appeared

in the section I speak of. it was in a family of ten children, they having one room, on a ground floor, for themselves and parents to live in. I have seen it, however, among the rich, and all classes, but it is not so virulent, and so hard to control, as among those first mentioned. Indeed, so ravenous has this disease been in our section, that scarcely a family has escaped a visitation from it, in some form or other. Among the

Scrofulous and ill conditioned,
it has been virulent and
malignant; among the healthy
and well conditioned, usually,
it has been mild and
simple. That it is both
infectious and contagious,
I have no doubt. When
it has entered a family
here, nine times out of
ten, it has gone entirely
through it, not even respe-
cting the heads. I have
known instances where the
disease was communicated
by fomites, and have even
seen several instances when

persons, from another neigh-
borhood, have taken it imme-
diately after having attended
the funeral of some one
who had died of it. Is it
analagous or identical with
scarlet fever or croup? I believe
not. It differs from the
first throughout its entire
course, sequelae included. Its
duration, if properly treated,
is much shorter than that
of scarlet fever, and it is devoid
of the diagnostic symptom,
par excellence, of that dis-
ease — the eruption. You may
have diphtheria, followed by

Scarlet Fever, and *vice versa*. Nor does the one give immunity from an attack of the other. The difference is equally great with Croup. Thus, the false membrane in the two diseases is identical, the exudation consisting of coagulated fibrine and epithelium, but in other respects there is no analogy. Diphtheria begins in the fauces, Croup in the larynx and trachea. The first is asthenic in character, the latter sthenic. The one is a blood disease, attainting the whole system, while the other is

Strictly local. The one is contagious, the other not. With regard to the disputes among late writers, as to whether or not diphtheria owes its origin to parasitic growth, I am unable to say, as I possess no microscope capable of deciding a point so delicate. From the well known fact, however, that parasites are frequently found on unhealthy mucous surfaces, I should think it highly probable that they could be detected in diphtheria; but that it owes its origin

to them, I do not believe.
The most ordinary sequelæ
of Diphtheria are, paralysis,
anæsthesia of particular muscles,
loss of strength, protracted an-
-æmia, impairment of vision,
and, sometimes, deafness.
These sequelæ may follow
immediately on the heels
of the disease itself, but more
frequently they make their
appearance after the patient
is, apparently, entirely well.
My Brother had one patient,
aged twenty five years, who,
after being pronounced cured,
became paralysed in all his

limbs, in which State he remained for nearly three months, and did not regain the perfect use of his limbs for eight months. During most of this time, his soft palate, and the adjacent muscles, were also paralysed, giving rise to the greatest difficulty in swallowing, even to the exclusion of swallowing solid food at all. He recovered in time from the paralysis, but remained anaemic and delicate, and at last a southern climate had to complete the cure.

Fortunately, but few cases are so distressing, and in good subjects, may be prevented entirely. I do not think, as some writers do, that these distressing sequelæ are as prone to follow a mild attack, as a severe one. Whenever I have seen Sequelæ of any moment, following Diphtheria, it has been after a bad attack, in a scrofulous, or ill conditioned, patient. The general plan of treatment used successfully, was this; Visit a large dose of Calomel and Rhubarb, followed

in three hours, by a dose of Castor oil. Immediately after the operation of the oil, the Potassae Chloras was given every two or three hours, in large doses, for twelve or twenty four hours, according to circumstances, and then the ammoniated tincture of Iron was given, alternately, with the Potassae, every two hours. This was the constitutional treatment usually used, varied, of course, according to circumstances. The local treatment consisted, in simple, of warm gargles of Sage Tea and Tannic Acid.

The latter remedy we relied on chiefly. It acts as a powerful astringent, removing inflamation, preventing the exudation of fibrine and lymph, and its powerful astringent properties enables the patient to cut loose, as it were, the membrane. In children too small for this, we use a mop, made of soft sponge, and brushed away the false membrane. This should be done, too, in adults, especially where it comes away readily. The great secret of success

in the treatment of diphtheria is, in keeping the throat clean. Where there is much swelling of the tonsils, and adjacent parts, nothing acts so kindly as gargles of hot brandy and water, frequently repeated. I have seen many patients saved by it.

When there is much depression, as is usually the case in patients requiring the brandy gargles, brandy may be used internally. The diet should tolerably liberal throughout the course of the disease, abstaining however, from the

use of solid food, as the powers of digestion are greatly weakened and interfered with. Vegitable broths and soups at first, and afterwards animal, are preferable, as they tax the powers of the Stomach but little to digest them. Such is a general outline of my experience with the history and treatment of this truly interesting, and terrible, disease. It is with great pleasure, though, that I can testify to the success of the course of treatment hastily and cursorily mentioned above.

Under it, out of over five hundred cases, incredible as it may appear, my Brother lost but three patients. In two of those, the disease had already extended to the trachea, when he was called in; and in the third, the boy's constitution was scrofulous, and his system completely broken down, consequent upon nursing seven brothers and sisters, who had just passed safely through the disease, before he contracted it. He holds the theory that no patient ought to be lost of diphtheria, if seen in time, and

the constitution tolerably good. Before
settling upon the above course of
treatment, he used the general stim-
ulating plan, with Nitrate of Silver
in solution, and in solid stick,
locally, but with indifferent success.
He has the loss of patients to regret,
which his present plan would have
saved. There are some few cases,
however, where the throat will not
heal perfectly, after the disease is
cured, and in such cases, he does
not hesitate to use a solution of
Caustic, or dilute acid, to stimulate
the parts to healthy action. Further than
this, Caustics and Acids form
no part of his treatment.

1863

An Inaugural Dissertation On Gun Shot Wounds,

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By N. D. Tobey

of

Washington County,

Md.

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Gun Shot Wounds. are wounds or injuries inflicted by the explosive violence of gun powder. They may be inflicted by powder alone, or by missiles projected from a gun or cannon. In these times these injuries are the most common with which the Surgeon has to deal. A great improvement in this line of surgery will doubtless date from this period., since men seem to have lost all regard for life, and have entered into the spirit of the times. (which spirit manifests itself in a wholsale slaughter of human beings.) The improvements in weapons of modern warfare have transformed much to modify the character of these injuries. Gun Shot wounds vary in degree and character from a simple scratch, to a very complicated and severe injury. (to part

of the body is exempt from wounds of this character. A limb may be dragged from its attachment; a bone broken, an artery severed, and every variety of injury be presented. Simple laceration of a part may be the only lesion, or simple contusion the only injury perceptible; while upon the other hand a vital organ may be pierced, and death be the result before aid can be rendered. The substances which inflict these injuries, are generally blunt or oblique, being projected with great force from muskets, rifles or cannons. Gun shot wounds, therefore partake of the nature of contused wounds mostly. The surface is always blackened immediately around (the wound), which circumstance gave rise to the idea that the ball or substance inflicting the injury burnt the part. This is an error. A ball cannot aquire sufficient heat, with whatever velocity

it may move, to burn a substance in its rapid transit through that which may oppose its passage. When a ball or substance enters a part, the edge of the orifice, is always inverted. Sometimes the part is lacerated, somtimes contused, and somtimes the appearance of a punctured or incised wound is presented. Every variety of appearance however, may be presented by Gun Shot wounds. Most commonly the part is contused, or severely lacerated. The idea was prevalent at one time that atmospheric presure produced contusion of a limb or part of the body. As for instance, where a limb was bruised or contused beneath the skin or even a bone broken, while the skin was left intact. This was called the wind theory. It has been exploded however, as is general, where there is too much wind.

especially when in connexion with frigid or bombast. Instances are upon record, where the hat and even the hair has been carried or cut away from the heads of men, and no perceptible injury been received. A cannon ball moving with spent velocity, may come in contact with a part, the skin will yield before the pressure, while the force will be too great for the parts beneath to overcome and contusion be the result, the skin being left intact. This explains the matter. It is not necessary to say much more upon this subject, as the idea is wrong. It is well known, that the atmosphere, is too unbounded, for a ball either a cannon or a musket ball, to produce sufficient amount of pressure to bruise or contuse a part. The same remark holds good in the case of concussions. The substance inflicting the injury itself, is what produces the concussion.

The atmosphere moves more slowly than the ball or missile, and hence, the air that is pushed before the ball or missile should produce contusion or concussion, not that portion which has been operated upon laterally, as the supporters of the wind theory, contend.

The nervous shock attending gun shot wounds, varies, in degree, and also in different individuals. Some persons sustain an injury of this kind with great fortitude. Ete the slightest shock or nervous disturbance, is perceptible. On the other hand, persons equally brave and hardy, show symptoms of nerve shock, upon receiving the most trivial injury. The mental part of the shock, is more severe as the injury is more severe. In such cases Symptoms of shock do not show themselves, until the nature and character of the wound is revealed to the patient. The Surgeon

can in these instances do much to prevent, this mental aggitation. by encouraging words, and kind treatment. Where the nervous prostration is not very severe, the patient will soon rally, and reaction will take place. Diffusible Stimuli should be employed. This however will be spoken of in the treatment of these injuries.

The nervous shock or prostration is sometimes so severe that it is impossible to rouse the patient, Reaction does not take place. This generally attends some very severe injury, such as the charging away of a limb, by a Cannon ball. But even these injuries, severe as they are, are sometimes not attended with shock susceptible to the Surgeon. Seat of injury has much to do with the mental part of the shock.

Gun Shot wounds are always attended with more, or less pain. Severe wounds are generally very painful.

The seat of the injury modifies the pain. If an important nerve be torn the pain is excruciating. However, the pain in most instances is not at first severe. Men often receive injuries in battle, and at the moment of the infliction of the injury, they are not conscious of the slightest degree of pain. In such cases they would not be conscious of having received an injury did not weakness from loss of blood, warn them of what had happened, and then for the first time pain is felt. The pain is severe when a bone has been splintered. The sharp spicular of bone irritate the nerves and soft parts in their immediate vicinity hence the pain. Tetanus does not often supervene upon the receipt of a Gun Shot wound. If at all, it is not likely to occur directly,

but later, when some circumstance may enhance the danger of a fatal result: as a foreign substance, such as a sharp splinter, inaccessable to the Surgeon, may be pressing upon an important nerve and by being a source of great pain, give rise to ~~[illegible]~~ tetanus.

Hemorrhage in Gun Shot wounds is not generally very severe. It depends much upon the seat of the injury, and nature and character of the wound. Owing to the parts being somewhat contused and lacerated, the hemorrhage is not so great. Primary hemorrhage at least is rare, unless a large and important artery is injured; as the femoral, popliteal, radial or brachial. The cause of this is obvious. The edges of the wound being rough and uneven, the blood

is checked in its passage and a coagulum forms which temporarily arrests the flow of blood. Secondary hemorrhage is more to be feared, and in some instances, patients have bled to death, before aid could be rendered, and the hemorrhage checked. The Surgeon should always endeavor to guard against Secondary hemorrhage, by such means as are within his reach.

The general character of Gun Shot wounds, varies, according to the substances inflicting the injuries and according to the violence with which they have been inflicted. As before remarked, these injuries may partake of the nature and character of other classes of wounds. They will all vary according to the circumstances, under which they have been inflicted. Contusions

lacerations, punctures and, incisions together with burns, may be presented. Contusions however are the most common. We may also find wounds presenting the appearances of several, or all of the above named characters. There may be contusion and laceration, at the same time, and indeed this is often the case. Fins of shell often inflict both contused and lacerated wounds, Though shell wounds are most frequently lacerated.

The instrument which inflict Gun Shot wounds are various. They differ in size, shape, and weight, and also in hardness. Powder alone. Shot of every size, bullets, canister balls, Shell, or mixed. Schrapnell &c. These may inflict wounds directly or indirectly. As the means of inflicting injuries indirectly they may force other substances into the body.

etc. for instance, splinters of wood, pieces of stone, and other substances. pieces of clothing are often driven before a ball and forced into a wound, or anything, which may be about the person of a patient, at the time of the infliction of the injury.

2dly. no systematic examination of Gun Shot wounds, can be attained, we will notice first those wounds, inflicted by powder alone. Can injuries be inflicted by powder alone? Undoubtedly, there can be. When powder explodes the grains are not all destroyed. The explosion is instantaneous, and hence whole grains are kept. These whole grains may penetrate, the skin and integuments and be productive of a great amount of irritation, inflammation and pain. The face and hands are more liable, than any other part

of the body to be injured in this manner. They are less protected, than other parts, and hence more exposed. These injuries are always inflicted when the person is close to the explosive material. A gun charged only with powder may be discharged close to the person, and the wadding may inflict a severe injury, together with whole grains of powder, and the infliction of a burn. The exploding of magazines, not infrequently, produces severe and complicated wounds, but even fatal ones to those, who may be in close proximity. In such cases, powder alone is not the only substance which may be driven into a part, but other substances also. Such as pieces of wood and stone, used in the construction of such buildings. Foolish men and boys are often injured, in experimenting with powder.

Injuries inflicted by shot alone will now be noticed. Shot vary much in size, from fine bird shot, to large sized buck shot. A wound may be inflicted by one shot alone, or by a whole charge. The character and appearance of these wounds vary with the number of shot and the distance they have been fired. One shot may not do much injury, and scarcely need medical or surgical aid; while it may sever an artery, or enter an important cavity, and cause fearful or even fatal internal hemorrhage. When a gun charged with shot, is fired from a distance, at an object, the shot will diverge and will not all enter at the same place. But at short range, the whole charge may enter together. In the former case several wounds may be inflicted, or there may be a wound for each shot which has

taken effect. While in the latter case there will most frequently be but one wound. of the shot are lodged in the part. Wounds inflicted by shot guns are most always, inflicted by accident, hence the circumstances attending the infliction of such injuries are most always within the reach of the Surgeon, and will aid in ascertaining the nature of the wound; and whether there are any shot or foreign substance in the part. All shot range the shot are apt to pass through the part, unless arrested by bone. The wound will present two apertures, as though inflicted by a ball. The orifice of entrance in such cases, has the edges inverted while the orifice of exit presents a lacerated appearance. The orifice of entrance, is also smaller than the orifice of exit. Wounds of this character, are sometimes very se-

and may wholly disorganize a part of a limb, or body, wounding arteries and entering capsules of joints. Bones may be broken by shot, especially at short range, when the whole charge is brought to bear against a single bone. The flat bones may be perforated, such as the scapulae. Bones of the skull. The shot may lodge in the cancellated structure of bone. Shot fired obliquely are often reflected from their course, by coming in contact with bones, and pass for some distance, under the integuments, thus forming a "coal". This may be the result when the bones of the skull and thorax are struck. The course of shot is not less devious, if they penetrate a cavity. They may pass entirely around the walls of the cavity, and not injure any of the contained viscera

On the other hand however, they may inflict a vast amount of injury upon internal organs, and result speedily fatal. These injuries may present a variety of complications all differing under, and depending upon the circumstances with which they may have been inflicted.

Wounds inflicted by Cannon, and Musket balls. A ball when it strikes the body, may cause four kinds of injuries.

1st It may only occasion a contusion, without penetrating the part, on account of its being too much spent, or of the oblique way in which it strikes the body.

2d It may penetrate and lodge in the part, in which case the wound has only one aperture.

3d It may pass through and through, in which case there will be

two apertures.

4th A cannon ball may tear off a whole limb.

The character of these injuries varies with the size of the ball, the character of the Gun or cannon, the distance from which they have been projected, and the velocity with which they have been projected. Rifled guns are now much in use, in war fare. These fire arms have spiral grooves extending from one end of the barrel, to the other. They are said to project a ball with greater force than "smooth bore guns." The ball used in these rifled guns is conical in shape. The grooves in these guns performs a half revolution in the length of the barrel. These grooves give the ball what is called its "windage." Balls are projected a greater distance by these guns than others.

All balls pass in a direct line, until their velocity is impaired, when they pass in a curve, being acted upon by the force of gravitation, which curve is called a parabola. The round ball projected by the musket or smooth bore gun revolves upon its own axis; while the conical ball projected from a rifled gun performs a revolution upon the axes of its direction. The base of the ball revolves also upon the apex as upon a pivot. These differences in the mechanism of the guns and of the balls they project produce a modification in the character of the wounds they inflict. Another circumstance modifying the distance the different balls traverse, and also their motion is that the conical ball being hollow in the base, is forced to expand when the powder explodes, and made thereby to fit the barrel more accurately. Hence the conical ball

can be projected to a greater distance and with greater velocity than the round ball. The conical ball for obvious reasons inflicts a more severe wound. The apex of the ball being directed forward it penetrates more easily than the round ball, and together with its increased velocity penetrates more deeply. The round ball is more easily resisted by an object, and thereby more easily turned from its course. The appearance of the wounds inflicted by the two balls differ in some degree. The round ball inflicts a greater amount of contusion, while the conical ball together with contusion, inflicts an amount of laceration. Other circumstances connected with the different fire arms, in use it is not necessary to notice.

The first kind of injury inflicted by a ball, is that in which

the skin is left in tact, while the parts beneath are bruised or contused. These kinds of injuries are strictly contused wounds of the first variety. But the second, and even the third varieties of contused wounds may be produced by a ball. A small sized cannon ball for instance may strike a part, abrading the surface, and tearing the skin, and produce contusion of the parts beneath. The same missile may also break a bone, and contuse the soft parts. These are examples of the second and third varieties of contused wounds. The manner in which these injuries are inflicted, is either by a spent ball, or one striking the part obliquely. They may be inflicted by a glance shot also, in which case, the ball may strike the part itself, or force some other substance against it. The wounds of this character are sometimes troublesome

affairs, and may so completely disorganize a limb, as to demand amputation. The wound will present a livid appearance. Pain and heat will be felt in the part. Veins within the sac of the part will be embarrassed. The capillaries will become congested and the part be swollen to some degree presenting symptoms of inflammation. In the first variety of contused wounds there can be no hemorrhage. In either variety the hemorrhage will be but slight if any. There is in no case an artery or important vessel ruptured, unless some adventitious circumstance should promote such a result. Such as the fracturing of a bone when the sharp margin of one of the parts of bone may rupture an artery. In such case the hemorrhage will be internal.

The second kind of

injury inflicted by a ball, is where the ball penetrates the part and the wound presents but one aperture. It is generally presumed that the ball or foreign substance is retained in the wounds, in this kind of injury. The size of the wound will depend upon the size of the missile which has inflicted it. The ball may penetrate only the skin and integuments. It may pass nearly through the part and present itself on the opposite side of the limb or body, immediately under the skin and integuments. Besides the ball other substances may be forced into the part. This kind of injury is generally inflicted at long range, when the velocity of the ball has been diminished. Its velocity may have been diminished, by passing through another substance before entering the part. The ball may be checked by striking a bone, after it has entered and

by this means be retained in the wound.
The course of the ball may be very devious.
By striking a bone it may be reflected from it's course, and pass half or entirely around a limb, or part of the body. This is a circumstance which should never be overlooked. The ball as before remarked may pass only under the skin and integuments, especially when reflected by a bone. This may happen when the bones of the skull are struck. It may happen also in any part of the body where the ball comes in contact with a bone and is reflected. If the resistance of the bone can not be overcome by the ball, this is most likely to be the result, especially if the bone be struck obliquely. In such cases the ball should be looked for on the opposite side of the limb or part. It may be found however, near the orifice of entrance

after having passed almost entirely around the body. It may also pass out of the orifice through which it entered. It course may be very devious also if it enter one of the cavities of the body. The ball may be divided by striking upon a sharp margin of bone, as for instance the anterior part of the tibia. Bones in these wounds may be fractured, or they may be perforated and the ball retained in their structure. The latter may be the result when bones of a cancellated structure are struck such as the vertebra and head of the femur. The appearances of these wounds, and their general character will vary according to the circumstances under which they have been inflicted. The edges of the orifice of the wounds will be inverted, and the surface immediately around will present a dark appearance. When the ball has

been reflected from its course by coming in contact with a bone, and has passed immediately under the skin and integuments, for some distance its course will be marked by a dark red line on the surface, called a vein. This appearance is caused by a stain of blood in the course of the ball.

The hemorrhage is not great unless an artery be severed. It is less however if the artery is severed, or wholly divided, than if it is but partially divided. The reason is obvious. If the artery is wholly divided, both ends contract within the sheath & coagulum is thereby more easily formed, and the hemorrhage ceases spontaneously. When the artery is partially divided this is not the case in such a marked degree. Where a bone has been broken the limb or part is deformed and there is crepitus. The bone may be com-

minated or splintered. In such cases the pain is severe, especially when the part is disturbed, and the spicular ~~ar~~ of bone displaced. The patient loses the power of motion in the part. In those cases where the ball has penetrated the vertebrae and has been retained in the structure of the bones, paralysis may have been induced in one or both of the lower extremities. This circumstance should never be overlooked by the surgeon, and the ball or foreign substance should be removed if possible. It may happen that the ball may pass the entire length of the body, and be lodged under the skin. A case of this kind fell under our observation at the battle of South Mountain in Maryland. The ball entered the body obliquely near the upper border of the right scapula and presented itself near the point of the sacrum.

The ball may penetrate one of the large cavities of the body and wound the contained viscera, in which case the result may be very unfavorable.

The third kind of injury inflicted by a ball is that in which the ball passes through and through the part, and the wound presents two apertures. Wounds of this kind are inflicted with considerable violence. The ball strikes the part directly, and is generally fired at short range. Though a ball may even be reflected from its course by striking an intermediate object, and obtain sufficient velocity to penetrate only through a limb or even the body. It is generally presumed that the wound is free from foreign substances when it presents two orifices. There may have been however, some other substance beside the ball carried into

the part, such as pieces of clothing the wading of the wading of the gun and being light have been retained in the wound. These light substances are more easily resisted by the parts with which they come in contact than leaden balls. A ball may pass through two or three persons and wound them all at the same instant. In such cases there may be some substance, carried from the one into the other and remain in the one through which the ball passed last. These injuries may be but simple flesh wounds the ball passing only through and under the skin and integument; while upon the other hand, a joint may be disorganized, a bone broken and an artery severed. The appearances of this kind of injury are various. The wound always presents two orifices. In a wound presenting two orifices it must

not always be present, however both openings have been made by the same ball. There may have been two balls, which have entered the part in directly opposite directions, the balls remaining in the part and the wound presenting two orifices. The course of the ball, the difference in the size and appearances of the apertures will generally serve as guides as to the latter, if there are any foreign substances in the wound. The orifice of entrance is always smaller than the orifice of exit. The edges of the former are inverted, while those of the latter are everted. The orifice of entrance presents a darkened, and contused appearance, while the orifice of exit presents a lacerated appearance. If a bone be broken or shattered, the limb is powerless. There will be considerable pain.

If an artery is injured there will be much or less hemorrhage. The wound will differ in character and appearances according to its seat, and the circumstances under which it has been inflicted.

The fourth and last kind of injury inflicted by a ball will now be considered. This kind of injury is that in which a limb or part of a limb is torn away by a cannon ball. A cannon ball, being of considerable weight and of large size, and projected with great force, and velocity, there can be no barrier raised to resist its passage. An arm a leg or part of an arm or part of a leg may be carried away. In these cases there is considerable shock or nervous prostration. Greater upon an average, than in any other kind of injury. The hemorrhage at first

is not so great as might be expected. The system for the moment is surprised, and the circulation not so rapid. Though the hemorrhage becomes great after reaction has taken place and the shock passes off. The pain at first is not severe. The patient very often for a few moments after the infliction of the injury is not aware that he has lost a limb. He falls if a leg or foot be taken off, but may not be conscious that he has lost a limb until he attempts to rise upon his feet. Then the pain is felt when the amount of injury is realized, and the part disturbed. The wound presents a lacerated appearance. If the limb be taken off between joints, the bone is broken obliquely, and presents a sharp margin. If a joint be taken, the articulating surfaces are destroyed.

We have lastly to consider wounds inflicted by Shell and Grape Shot.

The latter missiles being round and not filled with explosive matter the wound they inflict can be managed and described as those inflicted by ball. They are intermediate in size between the musket ball and cannon ball. They usually inflict severe and disastrous wounds. They inflict a vast amount of contusion and may carry away a limb or part of the body. They are projected with great force and may drive into a part either foreign substances. If they penetrate, the part the cause a larger opening than the musket ball. It is not necessary to recapitulate here, what has been said with regard to wound inflicted by ball.

Shell Wounds.

These wound present various appearance.

They may [illegible] be contused. They may also present the appearance of a punctured wound [illegible] as a sword may pierce into a part, or a sharp splinter of wood. The most frequent wound which shell inflict is lacerated. But they very frequently inflict both laceration & contusion at once. A shell is projected from a mortar or rifled cannon with considerable force, being armed with a fuse which causes it to explode when it has reached a certain distance. After reaching its destination it explodes, being filled with explosive materials. The pieces are irregular in shape, often presenting very sharp margins. These pieces fly around in different directions, and strike with considerable violence anything which may be in close proximity. These missiles are much employed in storming.

portions, and for throwing into entrenchments. The sharp and irregular pieces of shell, when they come in contact with the body, inflict very severe lacerated wounds. In the cases of smooth surface, or a piece of shell come in contact with a part, the wound is most likely to be contused. These wounds present various appearances according to the circumstances, under which they have been inflicted. They are not attended with much hemorrhage, unless they should be incised, or an important artery severed. Shell may drag of a limb, and inflict any variety of wounds. The wounds are generally severe lacerations, shocking the patient, and attended with great pain. This concludes what we have to say with regard, to the mode in which Gun Shot wounds are inflicted their general appearance and character. As to the wounds inflicted by other

substances besides missiles projected by ordnance, in which gun powder is the agent, they are regarded as gun shot wounds, demanding the same treatment, and invariably present the same appearances. They may be simply modified in character by some circumstance or other, which must always be taken into consideration by the Surgeon.

The treatment necessary in Gun shot wounds, will now be considered. This consists in the employment of local and general means. There are cases however where local means are so that are necessary. In the local means necessary there are several indication to be fulfilled

1st Arrest hemorrhage;
2nd Remove foreign substances.
3d Bring the part into apposition and

for at a time. These are the two most important indications, and embrace all the means necessary in the treatment of simple wounds. To fulfill the first indication, the arrest of hemorrhage, various means have been employed. In simple wounds, when the hemorrhage is not profuse, it may cease spontaneously. The application of cold or pressure with the hand may be sufficient. The compress, kept on by the bandage will in some cases answer the purpose. Styptics, were formerly much employed, but they are not much to be relied on. The best remedy is the Liquor ferri sulphatis of Jew. If the wound be a deep and narrow one and the artery difficult to secure the graduated compress may be employed. The tourniquet and ligature are the most reliable means to be used in the arrest of hemorrhage.

On the field of battle the domestic tourniquet may be employed very beneficially. This consists in a hand kerchief or bandage, placed around the limb, and a stick passed through it, which by being turned several times, will cause pressure upon the artery. The artery should always be secured by a ligature when practicable. It may often be a difficult matter to secure the artery, as the divided ends retract into the sheath. The wound may be dilated, by incision, and by this means secure the artery. The tourniquet or pressure should be employed, while the artery is being secured. If the thorax or abdominal cavity be injured, and the contained viscera wounded, the external flow of blood should be arrested, and cold applied in order to promote the form-

mation of a coagulum within. As to secondary hemorrhage, it is more to be feared than primary. As before stated, the lacerated and contused condition of Gun Shot wounds, promote the formation of a coagulum, and a spontaneous arrest of the hemorrhage.

The ligature should be lightly applied, and secondary hemorrhage well guarded against. If extensive sloughing takes place, secondary hemorrhage is likely to occur. If it should occur pressure should immediately be employed, and the artery again ligated.

The second indication is to remove foreign substances. It is first necessary to ascertain whether the wound contain any foreign substance or not. This may be done by the appearance of the wound and the employment of the probe

If the wound present but one aperture it may be pretty safely presumed that the ball or foreign substance is there. But this is sometimes unreliable. The ball may have forced the clothing before it into the parts and upon withdrawing the infolded clothing the ball may also be withdrawn. The wound in this case will be but slight and the appearance of it will be a suspicious guide as to whether the ball is yet within. The ball may pass entirely around the limb or body and escape at the orifice of entrance. In the use of probe great care must be taken. A considerable amount of irritation may be caused by their use. They should be used in a gentle manner. Especially should they be used carefully when the thoracic or abdominal cavity is penetrated. After finding the foreign substance, or ball the forceps should be introduced and the

ball a foreign substance removed. If the ball be under the integuments, and only superficial, it may be cut down upon and removed by this means. It may be necessary sometimes to dilate the wound in order to remove the ball. When the ball cannot be found without great difficulty it may remain. Lead in a solid state will not produce any ill effects if left remain in a part. A cyst or sack will form around it, and it may be imbedded for years in the soft parts of the body. It will not corrode or be absorbed. The same does not hold good with irregular splinters of wood or fragments of stone. They will always be a source of great irritation, inflammation and pain. They should always be removed if possible. If allowed to remain they cause irritation, inflammation suppuration, and sloughing of the wound. They may also give rise to tetanus.

Then substances should be diligently
sought for, and removed. It is always
better to avoid extirpation and sloughing
when it can be done. If a bone be
splintered, the spiculae should be removed.
They will always be a source of irrita-
tion. They become carious, and the
part will suppurate, and perhaps
slough. All detached pieces of bone
should be removed. It may be necessary
sometimes to excision. It may be
necessary when a joint is injured and
the bones splintered. When the grains
of gun powder penetrate the integu-
ments, they should be picked out by
some sharp pointed instrument. The
part should be well washed, and
soothing applications made use of.
If the grains of powder are allo-
wed to remain, they will be a
source of irritation to the part
and also disfigure the part.

The third indication is to retain the parts in apposition when parts have not [illegible] adhesion. It is impossible always to bring the parts into apposition. If the wound be an incised one, it may be done.

It sometimes becomes necessary to make an incised wound out of the injury presented, as for instance where it is necessary to dilate the wound in order to reach a foreign substance, or to secure an artery. In these instances strips of adhesive plaster may be employed. Sutures are rarely required. Lint should be placed upon the wound and the bandage applied. A bandage may be all that is required to keep the parts together in simple wounds. In severe lacerations no attempt should be made to bring the parts into close apposition. The attempt would be useless and would cause too much pain by pulling the skin & integuments upon the sutures. They should be [illegible]

ported by a bandage, and all undue pressure avoided. To promote adhesion, the wound should be cleansed, and causes of pain removed, and avoided, and the part placed in a proper position. In the first place, the wound should be dressed with the simple water dressing, lint applied, and the part kept cool & moist. A bandage should be applied, and the part kept quiet. The dressing should not be too often repeated, for fear of breaking up the adhesions. If there be much pain soothing applications should be made use of. The watery solution of opium, cold water will often relieve the pain. The part should be placed in such a position as to promote venous return. If it be a limb it should be elevated. If the part suppurate, free egress should be given to the matter. Upon removing the dressings, the wound should be washed.

Cleanliness should be attended to. When inflammation [illegible] cold applications or lotions may be employed. Such as cold water and warm poultices. It may be necessary at times to endeavor to promote suppuration in order that the wound may get rid of some foreign matter that has been retained. This can be done by poultices. If the bones are broken and there is no serious solution of continuity as in simple fracture, splints should be employed. The starched apparatus may be used when bones of the arm and fore arm are broken. If the elbow joint be injured and not sufficiently injured to demand amputation or excision an angular splint should be employed. They may be treated as simple fractures from any other cause. Fractures of the femur, patella, or tibia and fibula may be supported by the anterior

Splint. This apparatus invented by Surg. H. H. Smith, has many advantages over other mechanical means of support, when the bones of the leg are broken. The limb can be suspended, and the patient can change position in bed and not disturb the broken bone. It adapts itself, when rightly applied, to all parts of the limb, and hence, gives equal support to all parts. Pressure can be made upon the limb also, and by this means shortening of the limb is obviated. The Starched apparatus may also be used in fracture of the bones of the leg. The limb should be kept at rest. If the bones of the skull are injured, and symptoms of compression or concussion supervene. The means necessary in such cases must be resorted to. Too much local inflammation must be guarded against, in these wounds. The application of cold and

and elevation of the part may then suffice to keep down the local inflammation. A sufficient amount of inflammation must be encouraged, however to insure adhesion. Extensive sloughing of the part must be prevented if possible. This may be done by astringent lotions such as acetate of lead, sulphate of zinc or sulphate of copper. It has been thought by some that sloughing always takes place in gun shot wounds. Whether this is so we are not able to say but believe to the contrary. When a wound heals by the first intention, sloughing certainly can not take place. If there be burns the part should be well cleansed and soothing applications made rest of. Lime water and linseed oil has been recommended. All circumstances which may give rise to irritative fever or tetanus must be obviated by [illegible] attention to the wound and quietude.

The constitutional treatment will vary according to circumstances, and in different cases. If there is much shock or nervous prostration, stimulants should be employed. The diffusible stimuli will generally suffice, such as wine, brandy, and ammonia. Too much stimulation however should be guarded against. If the patient be much shocked and reaction does not readily take place, they should be promptly administered. Upon the contrary, if reaction takes place promptly, they should be withheld. Much will depend upon the patient's general condition, his previous habits, in the means to be employed constitutionally. Gunshot wounds are always attended with more or less shock, and hence great care should be taken in endeavoring to use stimulants, that a morbid excitation be not produced. Excessive vascular excitement should be prevented if possible.

When there is much pain and swelling in the part injured, the general system is likely to be sensibly excited. In these cases it may sometimes be sufficient to subdue the local inflammation by such means as have been stated. The application of cold, scarifying the parts around the wound and the application of leeches. Upon the contrary it may also be beneficial to employ warm applications when suppuration has taken place in the part. In severe Gun Shot wounds there is always more or less symptomatic fever. The antiphlogistic plan should be resorted to.

The bowels should be kept freely open by mild, and it may be necessary to use saline aperients. If there be considerable fever and of a sthenic character, and the parts present the appearance of sloughing or gangrene, venesection may be practised.

Too much vascular excitement must be guarded against by antiphlogistic means.

In bad habits or depraved constitutions it may be bad practice to use antiphlogistic means. Wounds do not heal kindly in such constitutions, and indeed they generally sink when the wound is made. A considerable amount of irritation ensues, even hectic fever may supervene. The system may need support from the very beginning. The wounds are liable to assume an unhealthy character, and sloughing and gangrene may take place. Typhoid symptoms may supervene and most commonly do in bad habits. These symptoms should be met by tonics and gentle stimulation. The sulphate of quinine. The [illegible] of wine & brandy. Support to the general system in these cases should not be overlooked. Proper attention should be paid to the secretions. In the wound there is no disposition to heal kindly, but suppurates, and symptoms of irritation

free incision. they [illegible] be paid [illegible] attention to the wound and the employment of opiates. The wound should be kept clean. egress should be given to the pus and the part kept at rest. Opiates should be employed to quiet the nervous system.

The diet should be well attended to. It should be mild and unstimulating. In no case is strong food demanded. Light and nutritious food should always be given the patient. Rest and quiet should be enjoined. Bed sores should be guarded against. The apartment where the patient is kept should be well ventilated, all causes of excitement should be avoided and the patient kept tranquil in mind. and due attention paid to cleanliness. If other symptoms should arise, such as those of erysipelas. the treatment should be modified to meet the symptoms in question.

Cases demanding [illegible] next and [illegible] be considered. Upon the authority of Baron Larrey, when a limb is so much injured by a Gun Shot Wound that it cannot be saved, it should be amputated immediately. Cases demanding primary amputation are 1st. When a limb is carried away by a cannon ball, or by the bursting of a shell. "The least delay endangers the life of the wounded. "The skin is violently dilated and lacerated, muscles are torn, the nerves and vessels cut and forcibly stretched: finally the bones are broken and crushed more or less extensively. "There is numbness in the part at first afterwards great pain, and a considerable amount of hemorrhage. "The pain increases fever is lighted up, and the functions disordered. Irritation continually increases and [illegible] itself by convulsive motions. If the patient should not sink under these [illegible]

-ptoms can be relieved by immediate amputation, the parts otherwise being probably destroyed, fall into a complete slough, gangrene takes place in the stump and its injurious effects are with difficulty restrained. 2nd When a cannon shot or shell, strikes a limb so as to fracture the bone, and violently contuses the soft parts, amputation should be performed immediately, otherwise all the disorganized parts will fall into gangrene, and the symptoms that appeared at first can will most certainly ensue. 3d When a large portion of the soft parts and the principal vessels of a limb (of the thigh for instance) are carried away by a ball and the bone is fractured, immediate amputation is demanded; for besides the great loss of substance, the limb may fall into sphacelus, in consequence of the rupture of blood vessels. 4th When a ball strikes the thick part of a limb, breaks the bone outright tears the muscles, destroys the great nerve and yet leaves the principal artery entire, amputation should be performed.

5th If a spent cannon ball should strike & break the bone & churn the soft parts, and leave the skin intact, there being reason to believe that the principal arteries are ruptured, which may be shown by enlargement, and a kind of fluctu-ation, amputation should be performed immed-iately. 6th When a joint is destroyed, the articulating surfaces of the bones destroyed and the bones fractured, together with rupture of the liga-ments immediate amputation is demanded. These are all instances demanding immediate or prim-ary amputation. Compound fracture of the fe-mur, when the femoral artery is injured, always demands amputation. These cases are not often attended with favorable results, but the rule is to give the wounded a chance for life by immediate amputation. Primary ampu-tation is thought to succeed better, than secon-dary amputation. Especially upon the field of battle, where the removing of the wounded is attended with much inconvenience, and destruction

of the parts consequent upon removal, over such sea-
ds, in many instances inflict upon the patient
great pain, and may frequently give rise to irrit-
ative fever. The first twenty four hours after
the infliction of the injury the system seems to
be more calm, and can more easily overcome the
prostration consequent upon an operation, when
reaction has fully set in. The supporters of se-
condary amputation maintain that the system
should be brought to the same condition that
chronic disease leaves it when amputation is nec-
essary in such cases as chronic synovitis, or ne-
crosis. This seems to be impossible, Art cannot
conduct a disease as nature can, for the reason
that art cannot cure a disease without the sanc-
tary assistance of nature. Upon the authority
of Professor C. R. Smith primary amputations
are more successful than secondary operations.
There may be cases however in which second-
ary operations may result more favorably, but
we are inclined to have primary operations.

Respectfully submitted, A. W. Ley.

1863

An
Inaugural Dissertation
on
"Typhoid Fever"

Submitted to the Examination
of the
Provost, Regents & Faculty of Physic
of the
University of Maryland
for
the Degree of
Doctor of Medicine
by
J. McKendree Kemp
of Maryland.

Typhoid fever

is a complicated disease belonging to most inhabited regions. It consists in disturbance of the functions generally without primary local inflammation. It has different modes of onset. Sometimes abrupt when the attack is marked by a shivering fit, severe headache &c. It sometimes comes on insidiously when we have premonitory symptoms which consist in general derangement of the nervous system. The patient becomes pale, languid, abstracted. He is feeble and easily tired. He complains of pain in the back and limbs, headache

and general uneasiness. The fever may come on so gradual that the patient is unable to state the time when attacked.

The disease is generally divided into first, second and third weeks, but is not always uniform. The Symptoms present during the first week are chill, heat, headache, dull expression of countenance, drowsiness, a frequent hard pulse &c
Before the end of the week we may have delirium, derangement of digestive organs, diarrhoea, and Epistaxis. Urine sometimes natural, sometimes scanty, high coloured,

and offensive. These symptoms go on to the beginning of the second week when the pulse becomes more rapid, the tongue grows dryer and browner, sordes accumulate on the teeth and lips abdomen distended and tympanitic. Bladder is affected: generally retention of urine. Difficulty of swallowing and deafness may also occur.

It is about this time that rose spots and Sudamina make their appearance on the surface. There is also a great increase of general debility which is shown by the patient slipping down in bed. He lies altogether on his back and his countenance is even expressive of

debility. Death may take place during or before the second week. When life is prolonged to the third week the penomena vary according as the disease is about to terminate in death or recovery. The favorable indications are diminution of delerium cleansing of tongue pulse lessening and all the more formidable of the Symptoms diminishing. The patient begins to attend to questions that are put to him and shows an interest in what is going on aromd him. The unfavorable Symptoms are weak and fluttering pulse, cold extremities, Hippocratic expression of countenance, &c

The pulse in typhoid fever is generally from beginning to end preternaturally frequent but may sometimes be slower than natural. Headache occurs early in most all cases. Delerium may be absent throughout the desease but is present in proportion to violence of the fever. The patient is often stupid during the desease passing his stools under him involuntarily and without his knowledge. Upon recovery the patient is often unable to recollect any thing that hapspened during his sickness.

On examination after death we find hardly any organ in the body whose tissues have not been more or less altered.

But the most important and most characteristic anatomical changes are inflammation of the glands of Peyer and the Mesenteric glands. They may be reddened thickened softened or ulcerated and sometimes the intestine is perforated.

The changes in the stomach are not uniform. The large intestines are most always distended with gas. The spleen is generally enlarged softened and darkened from congestion. The liver is frequently softened and otherwise altered. The heart is sometimes softened. The brain is generally natural but the membranes are sometimes congested or inflamed

Nothing precisely is known of the cause of this disease. It seems to be generated where persons are crowded together originating often in prisons, camps, ships, and hospitals. Young men coming from the country to live in large cities are said by authors to be attacked oftener than older residents. It generally occurs between the ages of eighteen and fourty five. It occurs in all seasons but most commonly in autumn. The same person is said to be attacked but once. It is thought to be of late taking the place of malarious fevers in districts where they occur which would seem

to favour the idea that Malaria has something to do with its production. It possesses limited contagious properties but is very seldom propagated in that way.

The diagnosis may be determined by the slowness and insidiousness of the attack, the diarrhoea dull expression of countenance tendency to epistaxis condition of the tongue rose spots tympanitic abdomen drowsiness delirium &c. It is most easily confounded with typhus fever but is distinguished by the different condition of the bowels being constipated in typhus and the opposite in typhoid. In typhus the colour of

the face is darker and the debility much greater in the earlier stages. The eruption is also different. In typhus the tympanitic abdomen is generally absent. The time of life in which they they occur is different typhoid attacking mostly the young: typhus occuring at any time of life. Typhus is a shorter disease than typhoid. The anatomical characters are also very different. Other fevers are distinguished from it by their own peculiar symptoms.

The prognosis varies: though it is a serious disease, when uncomplicated, it is not very fatal. The prognosis is said to be favable

in those under fifteen years of age. It may be considered favorable when the pulse has not risen above a hundred and ten; favorable also when we have quiet sleep mild diarrhoea no subsultus tendinum; Abdomen not much distended &c.

It is unfavorable in opposite circumstances.

Few Lesions

diseases says Dr Wood exhibit more happily the controlling influence of treatment. The indications for treatment are first to relieve all sources of irritation both external and internal: Second to reduce vascular excitement.

third, to support the system when depressed and forth to counteract local inflammation.
For the first indication the patient should be placed in a large well ventilated apartment free from noise and light and the antiphlogistic regimen rigidly enforced.

Mild aperients may be given to keep the bowels open such as small doses of calomel and rhubarb or a little castor oil. When the stomach is irritable we may give enemata but the bowels are generally sufficiently open without aperients.

For reducing vascular excitement we may use local

blood-letting. Cold and Mercury.
Blood should be taken by cups
or leeches. Cold may be used
internally in the form of ice or
small portions of cold water.
It may be applied externally by
sponging the legs arms temples
and applied to the head.
Mercury should be used with
caution and discretion and
discontinued as soon as the gums
are affected.

When symptoms of depres-
sion appear we must use stimulants
tonics and a more supporting
diet. Stimulants must be regulated
by the effects produced. The stimulants
used are generally wine or brandy

Ale may be given to those in the habit of using malt liquors. Oil of turpentine may be resorted to in bad cases when there is a weak pulse dry tongue tympanitic abdomen and all the symptoms which are thought to indicate ulceration of the intestine.
When inflammation takes place in the brain apply cups to the back of the neck or leeches to the temples. Remove the hair and apply ice or cloths wet with cold water to the forehead and scalp
For inflammation of the thoracic viscera cupping between the scapulae and a mild Mercurial course may be tried. Epistaxis generally

ceases itself when it is obstinate
poultices of lint dipt in Oil of
turpentine is a good application
Hemorrhage from the bowels should
be checked with astringents.
Acetate of lead and opium are
a good preparation. Diarrhoea should
not be arrested unless very exhaus-
ting when chalk mixture may be
used. For undue nervous irritability
camphor and Hoffmans anodine
may be used. A little Morphia
may be given at night when the
patient suffers from want of sleep.
When violent peritonitis takes place
from perforation of the intestine
we must keep the patient quiet in
the recumbent posture and

Administer large doses of opium.
When the surface or extremities
become cool we must use means
to restore the temperature such
as more bed clothes heated bricks
or bottles of hot water applied to the
feet —

The patient should be kept from
lying too long in the same posi-
tion to prevent bed sores which are
sometimes very long in healing.
Examine the surface daily and
when red apply a little brandy.

The hypogastric
region should be examined daily
and the bladder relieved if disten-
ded

1863

An
Inaugural Dissertation
on
Epilepsy

Submitted
to the
Examination
of the
Provost Regents
and
Faculty of Physic
of the

University of Maryland
for the Degree
of
Doctor of Medicine
by
Arundel Hopkins
of
Maryland —

Epilepsy!

Justly may our subject be classed among those diseases which have been termed "opprobria medicinae". For but few maladies that the young practitioner shall be called upon to combat will present such formidable characteristics. Nor can we deem it strange when confessedly the brightest luminaries of our profession both ancient and modern have shed so little light upon this terrible affliction.

Epilepsy, from επι upon and λαμβανω to seize, or as some writers contend, from επιλεγω meaning an abrupt invasion, a sudden seizure. Its synonyms are likewise suggestive, not only of its nature, but of the superstitious dread with which the ancients held both the

malady and its victims. For
Example, the Romans called
it "morbus comitialis", because
the occurrence of a "fit" in the
forum was followed by an
immediate dissolution of
that body. "morbus divinus"
as it was thought that the
gods being thus testified
their disapprobation of current
events. "Morbus qui Spulatur"
"because those present were
accustomed to spit upon
the epileptic man, or into
their own bosoms; either
to express their abomination,
or to avert the evil omen
from themselves" Among
us it is usually termed
falling Sickness, or more
vulgarly still, fits. The
par-oxysm may be either
of two extremes, the first of

which we term the Epileptic fit; or Epileptic vertigo, constituting its severest form. The second being exceedingly mild, and hence called by the French "petit mal". In general the first intimation which we have of the imminent paroxysm of the first variety, is a shrill and piercing shriek, we turn to the patient and find him prostrate upon the ground or floor as the case may be, laboring under general spasm, especially of the extensor muscles; with eyes fixed and staring, his brows knit; he appears to draw back from the beholder with a threatening look, which is soon discovered however but a fixed and meaningless gaze. The mouth is usually

twisted to one side, Several
authors have observed the
teeth fractured by the violent
contraction of the muscles
which close the jaw; the tongue
is often protruded from the
mouth, consequently not
unfrequently bitten, Sometimes
almost through; from the
wound in the tongue flows
a frothy Saliva, mixed with
blood; the neck is swollen,
or bears that appearance.
The abdomen is distended
with flatus. The diaphragm
and abdominal muscles
are perverted from their
proper offices. The Sphincters
are relaxed, nor is a discharge
from the vesicae seminales
uncommon. The hands
and arms are violently
thrown about; Striking

the chest of the patient, or surrounding objects. Dislocations are not unfrequent from the alternate contraction and relaxation of muscles; the spasms being what are termed clonic. The violence of the paroxysm gradually subsides, and the patient slowly recovers a degree of recollection, soon after however he drops into a deep sleep, exhausted by the violence of the struggle, from which he awakes unconscious of his illness, or of what has passed during the fit. Death has taken place in a paroxysm of epilepsy from spasm of the glottis, respiration being thereby suspended. Let us now turn our attention to the second variety the

petit mal; It occurs thus;
the Eyes of the patient become
suddenly fixed and vacant;
if he be in conversation, he
attempts to prolong it in a
slow hesitating manner,
then as if conscious of the
interruption, resumes the
thread of his discourse, at
the same time artfully
attempting to conceal his
Embarrassment; or again
there may be a very slight
and transient convulsion,
the fingers of one or both
hands moving spasmodically
and without any object; or
the Eyes roll or are turned
upward, or the muscles of
the face are twitched. Either
or both of these forms may
attack the same individual.
These paroxysms vary considerably

in duration, though as a general rule, it may be stated that they last from ten minutes to half an hour. Those attacks which last for several hours, being considered as a succession of attacks, often producing the death of the patient. The time at which the fit returns is likewise extremely variable, most commonly he is attacked every day or alternate day - or at night, just as the patient is about falling into a doze, or immediately upon waking. Again death may remove the unfortunate sufferer during the first paroxysm. We can assign no definite period of return, as it may vary from several times a day, to a year or even several years. The time of life also varies widely, infancy being by no means exempt from

this fearful scourge; the most
common periods are from seven
to eight years, and from fourteen
to sixteen, just before the age
of puberty. But it may attack
its victims at any age. In
the majority of cases the
attack comes on unannounced.
But some have distinct warnings
of its approach; these warnings
may precede the paroxysm
an hour or even a day.
Sometimes only long enough
for the patient to reach his bed,
or remove to some place secure
from danger. The kind of warning
that he receives may be one or
several of the following varieties.
Excitement of the mind, irritability
of temper, flushing of the face
and neck, giddiness, headache,
drowsiness, disturbed rest, frightful
dreams, flashes of light, muscae

volitandis; the patient loses his appetite, or his appetite becomes voracious; hissing noises heard; tinnulus aurium; or he perceives a bad taste in his mouth, or strange and unpleasant odors smelt; trembling in a limb mounting upwards, numbness along a nerve. Sometimes hysterical symptoms usher in an attack, lastly the aura epileptica may precede the attack, this strange phenomenon has been likened to the sensation of a current of air, or a stream of water ascending from the extremities to the head, upon reaching which point, consciousness is lost and the paroxysm declares itself. Persons subject to Epileptic fits have been known to retain their intellect unimpaired in old

age; but it is rare; many become corpulent and dyspeptic, others are affected with paralysis or apoplexy, but commonly it Ends in fatuity or abject idiocy" They generally sit all day long staring and drivelling, inattentive to the calls of nature; So that at last their most sanguine and affectionate relations dispairing of their recovery, become anxious for their death, as a release from suffering and degradation" Post mortem Examinations Show clearly that the functions of the brain have been unduly interfered with, though in what manner or to what degree we are unable to say. Careful observers of the morbid anatomy of Epilepsy tell us that the medullary substance of the brain is found indurated, and its vessels Enlarged. Frequently in addition

it is soft and flabby, the cortical structure is inflamed, The medulla oblongata presents similar alterations But besides those of the brain, there may be lesions of other important organs- diseased state of the liver, granular kidney, renal calculi worms in the alimentary canal, diseases of the uterus, caries internal exostoses, Spicula &c.

The causes of this fearful malady may be divided into predisposing and exciting. A predisposition to Epilepsy is said to depend on great "mobility" a peculiar liability to excitement derived from great debility or plethoric state of the system, We take it to be undeniable, that the Scrofulous diathesis is as surely a predisposing cause of Epilepsy as it is known to be of tubercular consumption, or those congenital

mal formations, which are inherited from strumous parents; And although we meet with many Epileptic patients in whom we can discover none of the more common symptoms of Scrofula, yet they are certainly of that habit of body in which Scrofula occurs, That Epilepsy is a hereditary disease is generally admitted; and though the patient may deny that either his father or mother has been subject to this disease, upon further inquiry we almost invariably find that it has been handed down from either one or both of his more remote ancestors, As Boerhaave has observed " Silente Saepe morbo in genitore, dum ex avo derivatur in nepotem" Many cases may be traced to some neglect of the assimilative organs, to too free indulgence in the use of fermented

or spirituous liquors, to debauchery of any kind, to venereal excesses, and lastly, by far the greater number - especially among the young of both sexes - have been found to be victims to that most horrible of vices masturbation among the exciting causes which produce epilepsy we may name two classes, first joy, anger, fright, or any sudden mental emotion, suppressed discharges for instance eruptions about the head, prolonged sleep, from the "congestion" of sleep, frequently it occurs at monthly intervals among women, then we may trace it to some sympathetic nervous irritation of the uterus, or upon painful menstruation. Opposed to these are terror, grief disgust, exhaustion from intense application to study, prolonged

vigilance, hypercarthsis &c not unfrequently, one or many of a number of unmarried females upon witnessing an attack of Epilepsy, may themselves experience these frightful convulsions.

The diagnosis of Epilepsy presents but little difficulty, as it is but rarely confounded with any other malady but hysteria, though we must be always mindful that it is the favorite disease of impostors, they feigning its paroxysms either to work upon the sympathies of the bystanders, or to otherwise serve their nefarious purposes. From hysteria it is distinguished by the total insensibility which presents itself during a fit of Epilepsy, by there being no globus hystericus experienced previous to the attack. The patient usually

wounds his tongue, or limbs in an epileptic convulsion, whereas in hysterical patients it is just the reverse, as they are generally careful not to injure themselves. The scream of hysterical girls is likewise varied by fits of violent laughing and sobbing. The prognosis in Epilepsy is most frequently unfavorable, so far at least as a radical cure is concerned, Frequently the patient dies during the first paroxysm, consequently we must be mindful of this danger when delivering an opinion to the friends of the unfortunate victim, To form a judgment of the amount of danger we must first endeavor to discover to which species of Epilepsy the case belongs. Should it be centric that is dependent on some lesion of the cerebral function

the prognosis must be unfavorable, especially when coexisting with any form of Scrofula. The prognosis is also unfavorable when the patient has a slanting forehead, or sugar-loaf shaped head, and where the fits have been frequently repealed. In eccentric cases the prognosis is more favorable; for instance when dependent on stone in the bladder, or on crude ingesta, or upon uterine irritation, for by removing the cause we may prevent the disease for the time being, and sometimes even prevent a return. When the fit appears in childhood, we frequently find that upon arriving at the age of puberty, the disease disappears altogether. In Epilepsy dependent upon uterine irritation, the malady often disappears when

a change takes place in the function of the uterus; as for instance at the appearance or return of the menses at marriage or during pregnancy. Although but few cases of habitual Epilepsy admit of a cure, the practitioner can in no way be held excusable for any neglect upon his part, as relief by proper treatment may be afforded in the majority of cases, so far as frequency and violence are concerned, We should endeavor to inspire our patient with hope, and to gain his implicit confidence. He should be recommended to take moderate Exercise, by walking, driving, or otherwise in company with some cheerful and congenial companion, The diet must be light and unstimulating taken at regular intervals, Prolonged sleep must be guarded

against as being exceedingly dangerous to a patient liable to Epilepsy. When called to a patient during a paroxysm, we should take some precautionary means to prevent him from inflicting injury upon himself, for instance by inserting a piece of cork or soft wood between his teeth, and securing his limbs. If the case belong to centric or cerebral Epilepsy, and the patient be robust and plethoric, we may take blood from the arm, or by cups. A Seaton or caustic issue may be applied to the back of the neck, and the discharge kept up, Antimonials are useful when the Skin is inactive, Emetics may sometimes ward off an attack, when given at stated periods, for instance

℞

Pulv. ipecac gr x v
Zinci. Sulph gr v

M

The condition of the bowels should be carefully attended to, give once a week, oftener if necessary. the following.

℞

Hydrarg chlor mit gj
Pulv ipecac grss
Pulv rhei grii
Ex aloes gr j

M. et ft pil 1.

Should the Epilepsy depend upon worms in the alimentary canal, they may be removed by oil of turpentine in drachm doses unless followed by Strangury, or by tin in powder. In nervous Epilepsy we must rely upon diet, proper regulation of the mind, and on such medicines as, Valerian, camphor, Snake root &c Tonics are very applicable

Such as cincona, nitrate of
Silver, Zinc, copper and iron;
Both ammoniated copper and
indigo have been highly lauded
but they are by no means so valuable
as their advocates have represented
them. Should there be any syphilitic
taint suspected give the Iodide
of potash. All vicious habits or
such as tend to deprave the system
or impoverish the blood should be
abandoned. Finally by the patient leading
a regular and sober life, and acting
strictly upto his medical adviser's injunctions
And the practitioner admiting and
acting upon the inapplicability of
the treatment to some cases of Epilepsy
which has succeeded in others
results more happy than either had
anticipated may be the consequence.

An
Inaugural Dissertation
On
Natural Gas

Respectfully Submitted
To
The Faculty
Of the
University of Maryland

By

James A. Veale

1813

Respecting the motives which have prompted me to select the subject of "Natural Labor" as the foundation of my inaugural dissertation, I have but a few words to say.

When we consider the great responsibility resting upon the accoucheur when called upon to take charge of the lying-in room, and also that any deviation from the normal course of labor will be more readily perceived when we correctly understand the natural process, it is reasonable to suppose that the subject should attract the particular attention of the medical student.

As the various functional disorders can only be comprehended when we are acquainted with the healthy functions of

the organs, so unnatural labor can only be comprehended when we understand the natural process.

These alone are sufficient reasons why the subject of natural labor should be studied carefully and attentively.

Not having had much experience in this branch of medical science, I approach the subject with much deference to the opinions of others, and especially to that of the able professor of obstetrics in the University of Maryland, and rely upon the same for the correctness of the following remarks.

Before commencing the subject of natural labor, there are one or two points which demand consideration. viz Parturition has been divided into a

number of stages according to the fancy of the author, but we think that a division into three will comprise all that is necessary for a full elucidation of the subject.

The first stage continues from the commencement of labor up to full dilatation of the os uteri, the second terminates with the birth of the child, the third comprises the time occupied in the expulsion of the placenta and membranes.

Now there are certain symptoms which announce to the woman that labor is approaching, and in regard to these it is necessary to say a few words.

1st at the commencement of the ninth month of gestation, the uterine tumor has reached the uniform cartilage of

the sternum, and there will shortly follow especially in the last two weeks of utero-gestation a subsidence of the abdomen, the uterus seems to sink lower, and also to be tilted forwards, the abdomen also expands laterally. the subsidence is owing to the head of the child gravitating into the pelvis and carrying the lower segment of the Uterus with it, the tilting forwards of the tumour, and the lateral expansion of the abdomen are owing to relaxation of the abdominal parietes.

2nd. during the latter part of pregnancy the woman is called upon to evacuate the contents of the bladder more frequently than usual, the amount of urine discharged however is not greater than at other times this frequent micturition is due to

pressure of the uterus upon the bladder, which diminishes its capacity, and also to an increased irritability of the viscus, but it is necessary to remember that this same symptom may occur in the earlier months, and that it is dependent upon the same cause.

3rd & 11th occuring about the same time of intussusception, and due to the same causes as the preceding sign, are griping pains in the lower bowels accompanied with tenesmus and diarrhoea. This sign may lead the patient into the error of believing that the bowels are unduly relieved, while it is not incompatible with hard fecal accumulation in the large intestines and may be relieved by laxatives or enemata in most cases.

4th " painless uterine contractions also occur about or later than the time of the two foregoing symptoms, the patient frequently experiences a comprising sensation in the abdomen not however amounting to positive pain, the hand at the same time applied to the surface of the abdomen feels the uterus to be somewhat hardened and tilted forwards, these painless contractions have been attributed to the movements of the child, and also to reflex action, they seldom occur until an advanced period of gestation unless in cases of threatened abortion.

5th " the "Shows" or, mucous discharge from the Vagina occurs about one, two, or three days previous to labor, with

a swelling of the parts molicher, it differs as to quality and quantity in different cases, in some it is profuse, in others scanty, in some thin, in others thick and viscid. This discharge is generally colourless until labor has set in, when streaks of blood may be observed in it, owing to rupture of some small vessels about the os Uteri during dilatation. This discharge by lubricating the vagina, and relaxing the soft parts generally, prepares the passages for the ready transit of the head, as a sign of approaching labor it is of more value than any which have been mentioned, and is the only one which denotes that it is close at hand.

There are several other signs of minor

importance, such as cramps in the lower extremeties, diminutions of dyspnea a sense of greater lightness, but these are so uncertain as not to merit particular attention.

I will now proceed to the consideration of the subject which I have chosen, first observing that the first stage of labor is normally two or three times longer than the second, and that the placenta should be expelled within an hour or an hour and a half.

The following is probably a correct definition of natural labor, although not universally adopted.

A labor is termed natural when the head presents and descends regularly into the pelvis, when the process is uncomplicated, and completed by the unassisted powers of nature within twenty-four hours with safety to both mother and child, when the first and second stages bear the due proportion to each other, and when the placenta is expelled in due time.

This definition is not universal, some writers include presentations of the breech, some make the time longer, others shorter and they also differ as to the manner in which the process is completed.

Presentation of the head is considered as one of the requisites of the definition of natural labor both on account of occuring far more frequently than any other, and also because

it is the most favourable. Unless the labor be accomplished by the natural powers it could scarcely be considered as natural. The duration of the labor, and particularly the due proportion of its stages are considerations of some importance. if the first stage be unduly prolonged, the case becomes one of tedious labor, if delay occur in the second stage it may become one of powerless labor, if the placenta be not expelled within the proper time we have a case of retained placenta.

I may now proceed to the consideration of natural labor in each of its stages.

The commencement of labor is dated from the time at which the contractions of the uterus become painful, and very properly. if the whole uterus be engaged, and if the

contractions occur regularly, and continue without suspension.

But it is not always so, the Uterus at first not unfrequently acts partially, irregularly, and inefficiently. Such contractions are called false or spurious pains, they arise from cold constipation, fatigue, and from various other causes. They may be distinguished from the true pains of labor, by commencing in the fundus Uteri, and from the fact that they do not involve the whole Uterus, recurring at irregular intervals, and unattended with mucus discharge from the Vagina, without a dilatation of os Uteri or protrusion of membranes.

Whereas true pains commence in the lower part of the Uterus, being first felt in the back, and extending towards the abdomen,

and attended with dilatation of the Uteri and protrusion of the membranes.

It is always desirable to relieve these false pains, as they may bring on premature labor, or if they do not occur until the full time may prove to be a great annoyance to the patient, this object may generally be attained by rest if the patient is over-fatigued, and by a mild laxative followed by an opiate if the stomach and bowels are disordered.

The true uterine contractions or true pains occur at regular intervals, gradually increasing in frequency and force, each individual pain moreover from its beginning increases in severity until it reaches its maximum, it then remains stationary for a short time, then

sub-nicles. This is the general character of the true pains of labor.

During the first stage of labor the pains are termed cutting or grinding. They are distinctive of, and confined to, the first stage, in character they are short, sharp, severe, acute, not attended with voluntary muscular effort, and not very frequent. They commence generally in the back, and extend round the loins towards the thighs and abdomen. They are sufficiently severe to compel the patient to abandon her occupation, (if she be engaged), and partially to suspend respiration during its continuance.

As they progress, they are also attended with a loud characteristic outcry. This outcry either taken alone, or in

connection with the cutting character of the pains, is a diagnostic sign of the first stage of labor.

The patient during this stage of labor is generally more irritable and restless than at a later period, frequently changes both her occupation and position, She is anxious and despondent, frequently weeping, rather from fear than from suffering, This distressing state however disappears when the more severe pains, hard labor, and severe suffering of the second stage arouse all the energy of the patient to meet the emergency of the case, Severe rigors commonly occur in the first stage, particularly as the head passes through the os uteri.

The pulse during this stage is not

generally more frequent than in health, the skin is not preter-naturally heated, the face retains its natural color, the veins of the neck are not turgid, nor the conjunctiva injected, as in the second stage,

Nausea and vomiting sometimes occur during the first stage, and may prove beneficial, not only by relieving the stomach of indigestible substances, but also by relaxing the cervix and os uteri.

If the hand be applied to the abdomen during a pain, the uterus will be noticed to contract, to become hard, and to be tilted forwards, so as gradually to bring its long axis in accordance with the axis of the brim of the pelvis.

By means of an examination per vaginam

during the first stage, we ascertain the condition of that canal, the state of the os uteri, and the rate of progress of the labor. at an early period the vagina will be found to be cool, generally moist, and not dilated or but slightly so. but as the labor advances yet while still in its first stage, the vagina will dilate, or become dilatable; the os uteri will be detected high up in the pelvis, its edges will be found to be thick and soft, or thin and hard, this latter condition is the less favourable of the two for dilatation, and gradually changes into the former as the labor advances. the os at the commencement of labor will readily admit the point of the finger, and is gradually dilated by the pains to permit the head to pass through, the

dilatation is effected more slowly at the commencement of labor than subsequently, because the bag of waters is not protruded until some progress has been made. If the point of the finger be kept in the orifice during a pain, the circle will be observed to constrict, and to become hard, and this takes place, until the head is pressing through the cervix, after which time the lips are retracted by each pain, by observing the advance made by the pains we estimate the progress of the labor. Towards the termination of the first stage, or when the os is well dilated, an increase of the sanguineous serum is observed in the vaginal discharge. Voluntary efforts are also made by the patient to assist the contractions of the uterus. Slight at first

but which gradually increase, about the same time the membranes break, the liquor amnii escapes, the next pain probably forces the head through the orifice, and the labor enters upon its second stage.

The phenomena of the second stage differ in several respects and especially in intensity from those of the first.

The pains of this stage are called bearing-down or forcing pains, which appellation expresses their character. They are longer, stronger and recur more frequently than those of the first stage, and are attended with strong voluntary muscular effort. The intervals also much greater as a general rule, but owing to the necessity of fixing the chest as a point of support for muscular exertion, the breath is suspended

during a pain, and the watery suppressed except at its termination. This change in the watery renders it a valuable sign in the diagnosis of the second stage.

At the accession of a pain the patient sieges hold of some thing and brings the muscles of the extremities, back, and abdomen to aid the uterus in its expulsive efforts to overcome the increased resistance with which the head meets, and which resistance and the necessity of more force to overcome it, is the ultimate cause of voluntary muscular effort.

The arrest of the circulation consequent upon the suspension of respiration, causes congestion of the cutaneous vessels and veins of the neck and temples are turgid, the face deep red or almost

black, the eyes prominent and injected, the surface becomes florid, the heat of the skin is greatly increased, and perspiration breaks out, the pulse is increased in frequency not only during a pain, but also in the interval, at the close of the second stage it generally ranges between ninety and one hundred and twenty. Vomiting also may occur dependent partly upon irritation with the uterus, and partly upon the pressure exerted by the muscles of the abdomen upon the stomach.

As a combined result of fatigue, and congestion about the head, the patient not unfrequently complains of headache and becomes drowsy in this stage of labor, she may even close between the

pains, and this is not unfavourable,
Cramps in the lower extremeties are
also sometimes present, dependent upon
pressure of the head upon the nerves which
pass out of the pelvis to supply the muscles
of the limbs.

If we examine at an early period of the
second stage, per vaginam, we find
the canal distensible, its walls moist,
mucous, and flabby, ready to yield to the
passage of the head; which will be found
filling the upper outlet of the pelvis,
descending with each pain, and receding
with its cessation. The advance
This
exceeding the recession, and, exactly
marking the rate of progress of the
labor, at a later period, the head
will be felt on the floor of the pelvis

where it meets with considerable resist-
ance, but which is overcome by the pains
and by the rotations impressed upon it,
here too the head is propeled by the same
advance and recession, and with a
spiral movement until the resist-
ance is overcome, and the head passes
over the perineum, which is made to
yield in like manner.
When the head is distending the perine-
um and dilating the external orif-
ice the exertion and suffering reach
their acme, and to guard the woman
from accident, each pain is just suf-
ficient to gain on the advance
made by the preceeding, the head
remains for a moment at its farth-
est point of advance and then recedes,

and this process is repeated until the perineum yields, and the os externum is dilated,

The resistance offered by the perineum carries the head forwards, so that the occiput presses against the sacrum, and when the perineum is stretched the os is sufficiently dilated to permit the head to pass through.

Near the close of the second stage, the pains are often double, one commencing before the preceding has ceased, until at last the resistance has been overcome, and with a bound, with a cry the head is expelled.

Then there is a short rest, after which uterine action again begins, to expel the body of the child.

The second stage is now completed. The previous suffering is exchanged for perfect ease, to the great comfort of the patient. The abdomen if examined will be found flabby, the uterus large and moderately contracted. The third stage of labor consists in the expulsion of the placenta, sometimes it is expelled by the same pains which accomplish the birth of the child, but rarely, more frequently it is only detached, remaining in the Uterus or Vagina. In other cases in a period of time varying from a few minutes to about an hour, interine contractions again commence, but much less forcibly, and by two or three pains the placenta is expelled, followed by a gush of blood which degenerates into the Lochia. Having finished my remarks upon the

course of natural labor I will now briefly notice the changes produced in the system and on the organs concerned in the process and the restoration to health, and first he shall speak of the duties of the accoucheur in attendance.

After labor there is always more or less shock to the nervous system, this is evinced by the exhaustion, which is more than can be attributed to fatigue alone. by the disturbance of the circulation and respiration, and by the increased or diminished sensibility of the brain. The patient soon recovers from this shock if she be kept quiet and obtain a few hours rest.

The changes in the circulation and respiration are the result of fatigue and the

nervous shock, the pulse during the second stage of labor is always increased in frequency. Soon after delivery it falls nearly in proportion to its previous frequency, after a few hours it again rises, but not so high as it was during the second stage, in about twelve hours it again subsides, to be increased again upon the secretion of the milk, after which should all go well, it gradually returns to the healthy standard. The frequency of the respiration corresponds to that of the circulation; when the nervous shock has been moderate, the number of respirations being increased during the rise of the pulse, and diminished during the collapse. The uterus contracts after delivery to about the size of a child's head. This contraction

prevents hemorrhage, closes the mouths of the uterine vessels, and expels any blood which may be in its cavity, and also with the process of absorption which goes on, reduces the uterus sufficiently in bulk to permit it to sink into the pelvis about the eighth or tenth day.

The vagina is soon reduced to its former size. The os uteri soon quickly regains its former density, and the heat and soreness abate.

The abdominal parietes remain loose and flabby for some time, but after a month or two, no evidence of their former distension will remain except white lines or streaks, and sometimes a rugose state of the skin covering the abdominal muscles, if the case be

taken to apply the binder properly.
The painful contractions of the uterus which occur after delivery are termed after-pains, the first is generally felt within half an hour. They ordinarily cease in thirty six hours, although they may persist much longer. They are not attended with bearing down efforts. They are beneficial by contracting the uterus closing its vessels, expelling clots of blood, and by preventing flooding. They are often aggravated by the application of the child to the breast. Women rarely experience them in their first confinement, because the uterus is reduced in size by its elasticity.
The discharge of blood which follows the expulsion of the placenta, gradually changes into the lochia or cleansings.

it is at first red like blood, but much thiner and does not coagulate, in three or four days it becomes yellowish, then greenish, and finally like dirty water, it has a faint peculiar smell, the time of its continuance is various, in some cases it ceases in a few days without bad effects, but it generally continues three or four weeks, its quantity is more uncertain than its duration, the sudden suppression of this discharge is of evil augury, as it is thought to be essential to the healthy state of the uterus, but it may sometimes suddenly disappear upon the accession of a fever, and after the ridance of the same again return with no deleterious influence upon the health of the patient.

The skin is bathed in perspiration from the labor of the second stage, and although the cutaneous secretion diminishes after labor it still continues above the healthy standard, the skin has a soft greasy feel, and the perspiration a mild sickly smell; the surface gradually returns to its healthy state as convalescence advances.

The urinary secretion may remain in its natural state, but more frequently the amount discharged is greater than usual, owing to the fluid nature of the diet. The condition of the bowels sometimes remains unchanged, sometimes it is the opposite to that in which they were during gestation, and it is not uncommon for women suffering from diarrhoea during

frequency, now to have solid motions, on account of the increased secretion from the skin and kidneys.

The mammary glands generally remain inactive for about twenty-four hours, after which time the breasts begin to enlarge and to become painful, at the end of the second or beginning of the third day. They are larger and more tense, the patient also suffers from rigors, pain and soreness of the breasts, heat of skin, the pulse is also increased in frequency. The secretion of milk begins about this time, at first slowly and with pain, but afterwards with considerable freedom, until in a few days it is secreted freely and with ease. The milk or colostrum of the first five or six days differs from that subsequent-

ly secreted, and often acts as a purgative to the child.

The next and last point for consideration is the management of natural labor.

The accoucheur should not consider his patient a mere subject for examination. he should be courteous and kind in his demeanor. and should be mindful of the condition and feelings of his patient, and even if she be a woman of bad repute to treat her as he would a lady without blemish.

When called to the care, the accoucheur should take with him a lancet, a little laudanum, a little ergot, and if he be in the country he should also be provided with his forceps.

The arrival of the accoucheur having been announced, he should proceed to ascertain as correctly as possible the condition of his patient in regard to all the functions, wether they be in a healthy state, or wether he may have some complication to treat, he should examine carefully into the state of the pulse, skin, tongue, bowels, etc. and still more minutely into the condition of the uterine system, he should determine wether the woman realy be in labor, and if so, should inquire into the character of the pains, their force, and regularity of recurrence, into the character of the outcry, the quantity and quality of the vaginal discharge, and the ammount of voluntary effort. Having made these investigations he may ask for a vaginal examination, ~~as~~ as to the manner of making this exam-

ination, the patient should lie upon her left side or back, with the hips close to the edge of the bed, the fore fin, or well oiled or soaped should be passed along the perineum from behind forwards, into the orifice of the vagina, in the direction of the axis of the inferior strait, and immediately changed in to that of the superior; and to be carried in this direction, until it reaches the os uteri. This examination should be made at an convenient period as convenient, and no time should be lost after the rupture of the membranes as this is the last time for rectifying a mal-presentation.

By means of this examination we discover the state of the vagina and cervix, the degree of dilatation of the os uteri, the rate of progress of the labor, and if the os be

sufficiently often, the presentation and position of the child. To obtain accurate information the examination should comprise both a pain and an interval.

The information thus obtained combined with the general condition of the patient will afford ground for our prognosis. The examination should not be repeated too frequently, as it may irritate the parts. As I am writing upon the subject of natural labor we will suppose the case in question to be of that character that the general health is good, that the woman is in labor. That the head presents, that the labor is progressing sufficiently rapidly, and that so far as we can judge every thing is favourable.

The patient will in most probably, how

long she has to suffer. to this question it is best to give no positive answer as to the duration of the labor, for this promise will in all probability end in disappointment, so may tell her that so far as we are able to determine, all is right, and that the labor will in all probability terminate favourably both for herself and her child. It is not necessary that the accoucheur should remain with his patient during the first stage, if the progress be slow, from leaving however, he should be certain that every thing is favourable, and should also give some general directions to the nurse concerning matters which must be in readiness, such as twine or tape for ligatures, and the binder, which should be wide enough to reach from the

bubes to the sternum, and long enough to go round the abdomen and leave room to pin over.

During the first stage of labor the patient is best out of bed. She may sit up in an easy chair, or recline on a sofa, and occasionally walk about her apartment. She may be allowed light meals but without stimulants.

It is particularly necessary that the bowels should be evacuated and the urine regularly discharged, so that there may be no accumulation to obstruct the head in its descent during the second stage. The patient should be cautioned not to make any voluntary expulsive efforts to assist the uterus during the first stage, as no exertion at this time can hasten the

labor. The practice once in vogue of endeavouring to dilate the os uteri by means of the finger is of very doubtful propriety.

The nurse should make the bed before the termination of the first stage. The part upon which the hips are to lie, should be covered with oiled silk or some other material impervious to the discharge, and this should be covered with folded sheets to absorb the water, and which are to be removed after the labor is completed.

When the second stage of labor has set in, the woman should undress and go to bed, the accoucheur should now be in attendance, and see that the patient be placed in the proper position. The one now generally adopted is upon the left side, though she may

prefer, the back, with the hips close to the edge of the bed, and the knees drawn up towards the abdomen; it is not absolutely necessary for the patient to remain constantly in this position until the head presses upon the perineum, unless the labor be progressing very rapidly.

The accoucheur should now take his seat by the bed side, and by means of an examination per vaginam ascertain wether or not there may be any obstacle to the descent of the head. He may also notice the progress which the labor is making, and make himself positively certain as to the presentation and position, when the head has passed through the os uteri; he may rupture the membranes by pressing against them with the point of the finger, if they have not broken spontaneously before this time

The chamber in which the patient is confined should be kept cool and well ventilated, and the bed clothes should be lightened when the patient becomes uncomfortable, or on any exertion. Whey gruel or tea should constitute the diet in this stage.

Some thing should be used for the patient to siege holding upon the occasion of the pains in order to fix the chest more firmly as a fulcrum for muscular action.

When the head begins to distend the perineum, this should be supported by the hand of the accoucheur, the object in so doing is to give way the curve of the sacrum, and to afford a gentle support to the perineum, the pressure exerted in supporting the perineum should be but slight, it should be strongest near the coccyx, while the anterior part of the

perineum is left free to yield to the pressure of the head.

The accoucheur may use the back of the hand covered with a napkin, or the palm with the thumb and fore-finger encircling the vulva. The skin should not be retracted over the head as it passes through the perineum but prolonged forwards to lessen the risk of laceration.

The accoucheur should receive the head in his hand when it is expelled, permitting it to make its natural rotations and carrying it forwards as the shoulders and body are delivered, while the perineum is supported by the other hand.

As soon as the child is delivered the accoucheur should examine the abdomen, and find out if there is a second child in utero.

When the head is expelled the nurse should
make pressure upon the uterus, and follow it
down as the body of the child is delivered.
By means of pressure then exerted, we gener-
ally succeed in having the placenta promp-
tly expelled. If not, it is generally loosen-
ed, and may be removed by gentle traction
at the cord.

As soon as the placenta is expelled or extrac-
ted, the binder should be applied, it
should reach from the pubes to the stern-
um, it should press most firmly upon
the hypogastrium and the effect may be
increased by compresses if necessary, by means
of the binder we lessen the danger of flooding
and prevent the deformity known as pen-
dulous belly.

Some recommend that the binder should

be applied as soon as the child is born, and that it should be tightened after the expulsion of the placenta.

But we would recommend that the accoucheur should first with his left hand grasp the uterus through the walls of the abdomen, and ascertain its condition, and with gentle grasping manipulations of the same hand excite its contractile powers, whilst with the right gently extract the placenta by the cord; and after having learned to his satisfaction that the uterus is firmly contracted, he may then apply the binder and tighten it or not, to circumstances.

When the labor is completed, a warm napkin should be applied to the external parts, with the surface next to the patient medicated,

or greased as a substitute with hogs lard.
Although our duties in regard to the mother
are now completed, yet the accoucheur should
not leave his patient until an hour thereaft-
ter, and before leaving should be positively
certain that all is right,
At best I think that anaesthetics can not be
of much service in every natural labor, alth-
ough highly recommended by some, and they
have been accused of favouring the occur-
rence of puerperal convulsions.
We must now retrace our steps a little,
in order to consider our duties in regard to
the child; as soon as respiration has been
established, or the pulsations in the cord
have ceased, a ligature should be applied
upon it two or three inches from the umbili-
cus, and another a few inches higher up

and the cord divided between them. The second ligature is useful in case there should be another child, with a vascular communication between the two placentae.
The funis should be examined, and if there be any bleeding, another ligature should be applied closer to the umbilicus.
The fragment of the funis should be wrapped in soft linen and turned upwards upon the abdomen. The remaining the cord gradually withers, and falls off about the fifth or sixth day, and the surface contracts and cicatrices.
The mouth and eyes of the infant should be examined, and any mucus which may clog them be removed; the vernix caseosa may may be removed by smearing the surface with oil previous to washing.

There yet remains something to be said respecting the treatment of the mother during convalescence.

After labor the patient should be kept perfectly quiet, the room should be slightly darkened, and few persons admitted. She should also strictly retain the horizontal position, and should not leave her bed before the eighth or tenth day, more accidents probably happen from premature exertion, than from any other cause.

The state of the pulse should be closely observed, as any change in it is the most certain evidence of mischief going on.

The external parts of generation should be washed with tepid milk and water, containing a little spirit, twice a day, both for the sake of cleanliness, and for restoring

the healthy and natural condition of the parts. To prevent suppressing the lochia. The napkins should always be applied warm to the vulva.

If the after-pains are so severe as to prevent sleep, they may be relieved in most cases by a laxative and a dose of laudanum. Care should be taken that the bladder does not become distended with urine, the patient should make water in about six hours after delivery if she is able to do it; if not a cloth wrung out of warm water, and applied to the vulva will probably afford the necessary assistance, if not, we must introduce the catheter.

After the first twenty-four hours the bowels should be kept regularly open by mild laxatives if required, but all

strong purgatives should be avoided,
The patient should not be exposed to a
draught of cold air, on account of the relaxed condition of the surface.
When the breasts begin to enlarge and become painful relief may be obtained by gentle friction with warm oil containing a little laudanum or tincture of camphor, but the application of the child is the best remedy and this is the case even if the mother does not intend to nurse her child, for as the secretion is always in proportion to the demand upon it, if the child be allowed to draw out a little milk their soon subsides.
The diet should consist of farinaceous substances for the first five or six days, after which time broth, and the lightest and most digestible kinds of meat may be allowed.

The Patient may resume her ordinary diet by degrees, & she should be careful not exert herself prematurely, but gradually return to her former duties and occupations.

Such are my views upon the course and management of Labor, whether they will answer in practice, the future must determine. I submit them, most respectfully to the Faculty of the University of Maryland, and only hope that they may be approved of by that able body.